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THE

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AND

JOURNAL OF PHYSICAL CULTURE.

ADVOCATES

A Higher Type of Manhood—Physical, Intellectual, and Moral.

CONTENTS FOR MARCH, 1871.

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OFFICE OF T. A. THOMPSON, Co. School Sup't,
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THE HERALD OF HEALTH

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A NEW DISCUSSION OF TEMPERANCE PROBLEMS;

COMPRISED IN A SERIES OF TWELVE ESSAYS CONTRIBUTED BY OUR BEST THINKERS AND WRITERS.

No. V.—TEMPERANCE AND RELIGION.

BY REV. J. C. HOLBROOK, D. D.

THE bearings of the Temperance movement of our age are far more extensive and important than many persons suppose. There is scarcely any interest of man that is not affected by it, whether temporal or spiritual. Its relations to health, both of body and mind, and to general prosperity have often been clearly set forth, but its connection with religion has not been so frequently and fully dwelt upon. In this brief paper I propose to present some thoughts on the latter topic.

Long and careful observation has served to convince most thoughtful religious men that the use of intoxicating drinks is one of the most serious hindrances to the progress of the Gospel in our land. In so far as it results in actual drunkenness, it shuts men out of the kingdom of Heaven. Religion and intemperance are utterly incompatible with each other. Where one exists the other can not, in the same individual.

Of all the vices to which men are addicted, there is none more degrading and dehumanizing than drunkenness. The Bible condemns it as sternly as any in the whole category of immoralities. Drunkards are therein classed with thieves, idolators and adulterers, and it is expressly declared that they can not inherit the kingdom of God. Christians are warned not to keep company with them, no, "not so much as to eat."

In connection with the injunction of the Apostle Paul in Ephesians v: 18, to be "filled with the spirit," there is a caution not to be drunk with wine, showing that to be under the influence of alcohol is totally incompatible with being under divine influences. The pure spirit of God will not come into the soul, or dwell where this demon is. There is something offensive and abhorrent to Him in the condition of one who has yielded himself up to the appetite for strong drink, including wine.

In I Corinthians x: 21, the same Apostle calls the inebriating cup "the cup of devils," because the heathen in their worship poured out libations of wine to their false and abominable gods, and drank to their honor, under the impression that they were pleased with the intox-

icating draught, and he warns Christians against its use, declaring, "Ye can not drink of the cup of the Lord and the cup of devils." Not only is the use of alcoholic liquors to the extent of drunkenness offensive to God, but it is also *to any degree*. It shuts one out from all communion and fellowship with Him.

But besides this, such use is a barrier and hindrance to the operation of the gospel in the soul. Alcoholic liquors are used as a beverage for the sake of their effects on the brain, which is the seat of their influence. And *all* such influence is intoxication to a greater or less extent, proportioned to the amount taken into the system. As far as they affect the brain, they derange the mental faculties, deaden the moral sensibilities, inflame the baser passions, warp the reason and judgment, enfeeble the will, and so far unfit the man for all the great duties and responsibilities of life.

What is intoxication? It is poisoning with alcohol—whether in gin, rum, whisky, or wine. The word "intoxicate" is derived from Latin and Greek terms, used to designate the poison in which daggers and arrows were anciently dipped, in order to render their wounds fatal. When the poison of alcohol (and all leading chemists and toxicologists class alcohol among the poisons) is taken into the system it seizes upon the brain and, as already said, to the extent in which it is imbibed it disqualifies it for service. Truth can not then be properly weighed, duty estimated, or any great moral question clearly decided.

In this condition a man is no proper subject for the gospel, for if ever there is demanded a clear head and a free exercise of the mental powers, it is in the consideration of all the great truths of religion and the momentous questions connected with the eternal interests of the soul. Hence all experience proves that there is no class in the community which is so difficult to reach with the gospel, and to bring under its power, as those who are habitual drinkers, even to what is usually called a moderate extent.

And there seems to be among such persons an instinctive sense of the incongruity of the habit of drinking with a genuine religious experience, for there is often witnessed a most desperate struggle in their case, under religious awakening, between conscience and appetite, the one prompting to the abandonment of the cup, and the other pleading for continued indulgence, the result being conversion or non-conversion, according as one or the other triumphs; not unfrequently, too, when men are thus religiously awakened and desire to shake off their impressions and resist the operations of the Holy Spirit through the truth, they are seen resorting to the intoxicating cup for that purpose, and usually with complete success. Facts in great numbers might be cited in corroboration of this. There is nothing more effective for "quenching the spirit," and deadening the moral and religious feelings of the soul than this.

Of all the instances, too, of backsliding and apostacy in our churches, a large majority are caused by the use of intoxicating drinks. Some years ago Rev. Dr. Lyman Beecher said of Rev. Dr. Nettleton, that he had "served God with more self-denial and consistency, and wisdom, and success, than almost any man living; I regard him as one of the greatest benefactors God has given to this nation, and among the most efficient instruments of introducing the glory of the latter day." Dr. N. was extensively engaged in labors in revivals of religion, and was the means of the conversion of thousands. In a letter addressed to Dr. Beecher, which was published, Dr. N. said: "I have kept a list of those who have professed religion in the revivals in which I have participated, and have watched them with anxious solicitude and made particular inquiry about their spiritual welfare, as opportunity presented. . . . . *The sin of intemperance has caused more trouble, and none more dishonor to the cause of Christ, than* ANY OTHER VICE THAT CAN BE NAMED. Few, if any, excommunications have taken place for any crime except intemperance.

"Now, my brother, what shall be done? I do not ask what shall be done to reclaim those who have so grievously offended. *For these, I fear, nothing ordinarily can be done.* Their case is almost hopeless. My inquiry is, What shall be done to prevent the future disgrace of the cause of Christ? The only evidence of repentance in such a case is a continued course of entire abstinence from intoxicating drink of every kind.

"From what I have seen I do believe that no class of persons are more likely to be deceived with false hopes than are such as have been in the habit of drinking freely, though not to intoxication. *If, while under conviction, a person allows himself to sip a little to raise his sinking spirits, he is sure to grieve away the Spirit of God.* I could fill sheets with the relation of facts.

"I think we may set it down as a probable sign of a false conversion if the individual allows himself to *take a single drop.* Every time he tastes he is putting fire to tinder and powder."

We are taught to pray, "Keep back thy servant from *presumptuous* sins." And who sins presumptuously if he does not, whether in the Church or out of it, who in this day, and amid the light that shines upon the danger of the use of alcoholic beverages to any extent, allows himself to indulge in the practice?

But our subject is not exhausted when we have shown how antagonistic is the use of intoxicating drinks to the work of God and the *direct* operations of the gospel in the soul; we must also consider the influence of drinking-habits on the general morals of the community. They are often, if not almost always, associated with and promotive of gambling, Sabbath-breaking, and other immoralities that are opposed to religion and hinder its progress and disincline men to the means of grace. What an immense flood of crimes and evils flows from this source, which obstruct the progress of religion! Sweep away all the hindrances that have their origin in drinking-habits, and create an entirely temperate community, and how comparatively easy would be the work of building up churches and establishing and maintaining religious institutions, and bringing the masses under the influence of the gospel.

What a monstrous perversion and waste, also of the pecuniary resources of society, is involved in the use of intoxicating drinks which, if devoted to religious purposes and enterprises would speedily give the gospel to every creature. What could not be accomplished in the way of building churches, supporting ministers, and sending out missionaries, if the sum total of what is spent for alcoholic liquors in the United States were devoted to that purpose? Give me this, and I will sustain every existing missionary, Bible, and tract society among us, supply every settlement in our land with a church edifice and a preacher of the gospel, and have a handsome surplus left to multiply instrumentalities for the spread of the gospel, and the intellectual and moral elevation of mankind. Men talk of being taxed to maintain religious institutions; why, vastly more is wasted on intoxicating drinks in this country, annually, than all our religious and educational expenses.

Take what view we will, then, of the effects of the use of intoxicating drinks on religion, we see that they are evil, and only evil continually; there is not an iota of counterbalancing good. Hence we see the justice of the remark of the writer of the first number of this series of articles on Temperance Problems, that "the great body of those who stand for the cause of Temperance are the enlightened, cultivated, conscientious; and the great body of those who stand against that cause are the unenlightened, the uncultured, the careless." It is just what we ought to expect.

It is noteworthy that the great mass of the ministers in this country, as well as of the members of our Protestant churches, are the open advocates of the Temperance cause, and practice upon its principles. This fact speaks volumes in respect to the importance and value of this great reform, and affords presumptive evidence that it is intimately connected with the religious prosperity of society. And the more we study the subject philosophically, and in the light of observation, the more we shall see the propriety of the designation given to Temperance of "the handmaid of religion." It has been frequently noticed that a powerful Temperance reformation in a community has proved to be the John the Baptist of a wide-spread revival of religion.

When we think how extensive is the use of intoxicating drinks, and what a mighty obstacle it is to the moral and religious as well as the intellectual and physical elevation of society, is it strange that those who are most in earnest in the work of this world's renovation and the salvation of men, are also ardent friends of the Temperance cause? Would it not be stranger if they were not? That any Christian, not to say philanthropist, can be indifferent to the advancement of this cause, and fail to array himself in the ranks of its friends, is among the strange inconsistencies that we so often see. Whether or not we can say that the triumph of the principles of the Temperance Reform will be the triumph of Religion, it is certain that Religion can never prevail until the use of intoxicating liquors is banished from society.

DRAWBACKS TO HEALTH OF TEACHERS.—With the vile atmosphere of the schoolroom constantly pouring over the lining membranes of the nasal cavities, surging about the linings of the throat and the vocal organs, diving down the bronchial tubes, and deluging the lungs, what wonder the teacher first suffers from vitiated blood, then from clogged membranes, and, lastly, from catarrh, bronchitis, dyspepsia, and, perhaps, pulmonary consumption. It is next to impossible, that the more nervous and susceptible constitutions should not sooner or later succumb to the baneful influence of so complete and omnipresent a cause of physical depravation.—*Schoolmaster.*

The Education of Daughters.—A Word to Parents.

BY MRS. R. B. OLEASON, M. D.

WITHIN the last quarter of a century our land has been dotted with seminaries and colleges for the education of our daughters, and now come the questions which the friends of the cause must face.

Is the plan of study usually pursued the one best suited to the prospective wants of the pupil? Is it advisable for a growing girl, with a delicate organization, to undertake the full college course, and add also the ornamental branches?

As I had long looked with ardent longing for an enlarged course of study for young ladies, I am watching with intense interest its results. Meeting with so many chronic invalids among those who have had the best educational advantages, I have grown anxious on the "school question," and visited many of our best institutions to ascertain whether homes or schools were at fault, that we have so many invalid daughters. I am very sorry to find that hosts of sick girls are sent to our best schools, expecting that they will learn the art of healthy living along with the other arts and sciences. Parents expect good scholars to be made out of very poor material, and that, too, in an incredibly short time. I am surprised at the home-pressure on delicate girls, urging them to do double duty that they may enter an advanced class, and thus graduate early, when the young lady is better fitted for an infirmary than an institution of learning. An absent daughter is a great social privation to parents, sometimes also a pecuniary tax which they can ill afford; hence the propensity to "hurry up," which is so hazardous to mind and body.

Uneducated parents are often over-earnest for the education of their daughters. They have no conception of a college course, of the amount of mental labor it requires, or that delicate girls unable to work are unable to think consecutively, or profitably, for any length of time. Such remind one of the ignorant woman who called to inquire how her boy was coming on at school. Being told "not very well," she asked "why?" "He lacks capacity," replied the teacher. "Indade, sir, and why didn't ye tell me that afore, and I would have bought him one!"

"Money can't make me well and strong like other children," said little Paul to Dombey, his father. So, schools well endowed and well kept can not give good health and great scholarship to sickly girls in a short time, oven though rich parents are ready to meet the bills, and the best of professors are untiring in their efforts. Hence, let us cease complaining of our schools when we send girls young and sickly, and they come home less in mind and less in muscle than we expected.

The first great fault in their training is the insane haste to have them learn every thing while young. By this means, their education is literally finished early—the intellectual force and flash being burned out, used up hopelessly. Of those thus crowded many die early, some are left permanent invalids, and others still retain their physical power but fail mentally. The bright scholars become not only dull as years advance, but sometimes positively imbecile, or as we say, weak-minded. Of all these classes I have seen many very sad instances.

The peculiar phases of mental and physical derangement induced by over-study while young are presented more at length in "Talks to My Patients," and hence I will not now dwell upon them. Suffice it to say, our girls are not mature enough in mind or body to endure the labor of a college course till they are eighteen or twenty years of age. Remember, that I do *not* say that they can not learn the appointed lesson, or that they may not graduate with honor even before that age, but it will be at the expense of mind or body, which will show itself in after years. Their womanhood will not be as strong, as complete, as enduring as it would have been if they had had less study in early girlhood. Not only is their health almost invariably impaired, but what they learn when thus over-crowded is evanescent. Many a young woman, during the days of invalidism which succeed her school course says, "I'm forgetting all that I learned."

During school examination young ladies will recite so much and so well as to amaze men of sound learning who listen, but the pale lip and wasted muscles, which give now and then an involuntary twitch, show that the system has been over-taxed, and graduation closes usually her career in science and literature. The brain is

too weary for close, substantial reading, back too weak for piano practice, no taste nor strength for domestic work; so she takes to easy chairs, light literature, social life, and worsted work, unless in lack of friends to give support she is driven to the school-room to earn a living, which is "a hard road to travel" for a worn-out student. The objection comes, that if our daughters are not sent away to school early marriage will interfere with their proper education. Be it so, they had much better enter upon their new life with good health, and good home-training, *without* the college course than with it, and lacking the first two acquirements. It is impossible for girls to graduate at eighteen or twenty, have the freedom necessary for a good physical development, learn well home duties, and take a complete college course, to which has been added art studies. Something must be neglected, and it is usually health and housekeeping, the two most important elements to make a contented wife and happy home. Every thing in its order—first the physical, and those activities which favor muscular development. There is a time for all things, and the time to develop muscle and learn those forms of handicraft which depend on them is before the twentieth year. After that it is developed slowly and imperfectly. All deem important the early muscular education of the fingers for the piano, even so the tact, dispatch, and strength of fiber needed for domestic work should be developed when the body is growing. If delayed, dislike and debility make it irksome. If the first lessons in household work are postponed until after graduation, we shall conclude that our girls have learned "all kinds of sense except common sense," and that, however well their heads are furnished, their hands are very useless and their backs too weak for any useful work. I do not mean that much manual labor and close mental work can go on simultaneously. We should not expect our girls to be able to do much at home while in school. Therefore, during their growing stage there should be school life and home life, alternating from year to year, as the state of health and state of head indicates. But the girls say, "Let me finish my school course, then I will learn housework," and add by way of argument, that it will be easier to learn now than later, that they can pass a better examination by continuous study, all of which is, to some extent, true. But nothing pays which impairs health in the acquiring. This turning all the life force to mental culture unbalances a system which has a body and brain. Hence growing years should be divided between the development of the one and the other.

There is reason to hope that if our educational plan included more years, it would delay marriage till the mental and physical maturity of womanhood was more perfectly accomplished, and thus bless the land with better wives and better mothers. If the young lady completes the full college course, and also music and painting, and has given good attention to home culture, and taken good care of her health, she should feel that she has done well if she receives her diploma at twenty-two to twenty-four years of age, according to her health, early advantages, and power of endurance. Very few can do all this, and do it well, before that age.

But some one says, "Our sons go to college young, and get through earlier than this." Yes, and how do they come out? Many of them miserable invalids, others know little more that is good and much more that is bad than when they entered. They often lose for lack of good home care what is of more value than all the Presidents and Professors can give. But I am not writing of the sons, but merely wish to shut off invidious comparison between the sexes. Both need constant guidance during their most impressible ages. Boys in some respects require more and receive less than girls. Our sons suffer more from vicious habits, and our daughters from those that are unhealthful. Boys are trusted more at large, but the community calls for continued supervision of our girls, and hence the confinement must be close, too close for the best development of the young, who ought to enjoy childish freedom, like lambs at liberty to run in the home pasture under a shepherd's eye, where they can be gathered into the family fold about "nightfall." The general regulations for college students as to hours of rising, retiring, and exercise can not be elastic enough to meet the needs of sensitive, sickly, delicate girls. The effort made to adjust the rules and the exceptions in a large school so as to meet the wants of the younger and weaker members makes the work of supervision, of giving permissions, very burdensome for those who have the oversight Teachers are worn in the effort to do double duty, that of acting as teacher and mother to many who ought still to be in the home nest.

"But," says one, "if my daughter is at home she will go out in society too early, she will keep late hours, and eat what she ought not to, and if I put her in school she will be restrained and held to regular habits." And so you shirk the care and responsibility of guiding your ex-

eitable and wayward child on to some worn-out teacher, who has already more of that class than she can well manage.

Another says, "If my girl stays at home, what shall she do? I don't want her on the street, and we keep so many servants there is nothing for her to do in-doors." All I can say to this is, that every girl should do domestic work till she can do it well, and that her mother should teach her the art of housekeeping.

In all our larger schools are gathered many young girls who are not ready for the position, but for whom there seems no better place—motherless girls, those unhappy with their second mother, and those whom their own mother can not manage. Of the many belonging to these classes, I have seen many sick, sad faces among girls fourteen or fifteen years of age, who had been in a boarding-school for three or four years, and who counted the years they must remain before they could graduate as convicts number the years of imprisonment. They had no love for study, no health for study, and were weary with the monotony of their lives. There is no drudgery so irksome as mental work, when there is lack of taste and strength to accomplish it well. Those who take kindly to boarding-school life at an early age, lose their love for quiet home life, and seldom regain it. Those who can not have proper home care at this age should find a place in small family schools, where there can be as much of home freedom and home feeling as possible. To be sure, there are educational advantages in a large school which can not be had in a small one, but this will not make amends for the nervous excitability and consequent exhaustion induced by the presence of so many persons. Besides this, the individual motherly supervision, the quiet home sense, is lost. As to those wild and wayward girls who worry teachers, and lead pupils astray, and necessitate rules and regulations too stringent for the general good, they need a place of their own.

A President of one of our colleges said, half playfully but very wisely, that the Protestant churches needed what was equivalent to a Catholic convent for this class, or a sort of "House of Refuge," for girls who would not do well at home, and who were ringleaders of mischief at college. Certain I am that the system of espionage often practised in our large schools has an unpleasant effect on the watcher and the watched.

If parents felt more their personal responsibility, and would keep their children under good home guidance till they were well established in health, mature in mind, and needed the aid of presidents and professors, our high schools could then do their appropriate work, and not have their enthusiasm exhausted in nursing, watching, and governing. I have been annoyed, amazed, and amused at the variety of work parents require of their teachers. As a sample, a city mother takes her daughter to college and amid the varied attentions which she wants her to receive, asks that the lady principal will try to have her daughter converted, and see that she curls her hair every morning, adding that her father is very particular about her hair, as he likes to see her in curls, and that she (the mother) feels very sorry that Clara is not a Christian. The desire for outward and inward adorning was all expressed at the same time, and in the same tone.

Let parents look well after the spiritual and physical training of their children, and accept such helps for the mental as their location affords, until the general habits are well established, and then we have a foundation and superstructure to which colleges can add gifts and graces.

THAT ONE DROP.—For two years past I have been laboring to save an inebriate. After several relapses he became perfectly sober and gave hope of permanent reform. His wife remarked, "If he falls again, it will kill me." Things went on smoothly several months. That once darkened home had become once more a sunny spot. But one day the reformed man met an old friend, who invited him to dinner. At the table wine was furnished, and the entertainer pressed the reformed inebriate to take a glass with him. He knew the man's former habits. The unhappy man swallowed one glass, and it unchained the demon in a moment. From that hour to this my poor friend has hardly seen a sober day, and nothing but a miracle of God's grace will ever lift him from the bottomless pit into which one treacherous glass of champagne hurled him in an instant. In this case it is not difficult to decide who was the greatest sinner. The man who urges a reformed inebriate to touch a drop of intoxicating liquors deserves to be imprisoned for ten years at hard labor. He is not a safe person to run at large, for where is the moral difference of assassination with a knife, and assassination with a "social glass" of poison?—*Dr. Cuyler.*

THE man who possesses good health is always rich.

Why Doctors Die Prematurely.

BY J. HENRY BENNET, M. D.

THE following paper, by Dr. Bennet of the Royal Free Hospital, London, from The Lancet, though specially referring to medical men, contains practical hints for all hard workers in advanced years. Men ought to work well when young and in their prime, and after forty-five or fifty years of age take active life more leisurely, cultivate the higher and better faculties, and live so as to prolong life to a good and wholesome old age.—ED. H. OF H.]

IT is admitted by all statisticians that medical men are a short-lived race—indeed, that the standard of mortality in their case is that of unhealthy trades. Why should it be so? As a rule, medical men are well-fed, well-clothed, well-housed members of the community; and the occasional risk incurred in ministering to contagious diseases scarcely accounts for the shortness of their lives, for their premature age, sickness, and death.

Such thoughts have often crossed my mind of late years. When a man has passed his fiftieth year, his contemporaries and companions begin to drop off around him in great numbers, in every class of life; but in our profession the mortality is evidently greater than in other professions. This mortality is also evidently greatest among its most intelligent and most eminent members—a fact which appears to me to contain within itself the key to the question I have put. May it not be that such men succumb and disappear from our ranks *because* they have been great workers, and consequently successful in their generation?

If it is so, if the most valuable lives in our profession are constantly brought to a premature close through the overstraining of vital powers which success brings, would it not be well if the positive danger to life of great success, were more generally enforced and recognized? Our lectures and class-books teem with warnings respecting the dangers of sloth, of inactivity, of mental stagnation. May not a few words of warning be added on the dangers of work and success? If so, they will not come inappropriately from one who failed physically, years ago, through overstraining of mind and body—from one whose recovery has been principally due to his having seen the error of his ways, before it was too late, and to his having accepted and followed the laws of Physiology and Hygiene, formerly ignored, as they are nearly always ignored by the whole tribe of mind and body workers.

The peculiar feature of the medical profession is, on the one hand, that work increases with age, and, on the other, that the public do not consent to look upon aging medical men as veterans, but exact from them to the end the labor of youth. In all other professions, as age advances and renown and prosperity increase, assistance, relief, come naturally. The barrister has his junior counsel who prepare his briefs, the solicitor his head clerks, the vicar his curates, the colonel his staff of officers, the merchant or banker his junior partners and clerks; but the successful physician or surgeon must stand all alone, whatever his age, and do his work entirely himself as long as he practises. Thus, after the age of forty and fifty, the hours of positive work increase very rapidly, instead of diminishing. An officer of fifty or sixty years of age, after seeing thirty or forty years' service, is considered to have gained a claim to repose for the rest of his days. Even a missionary, after less than thirty years' labor in the cause of religion, is pensioned off, and thought to be entitled to honorable rest for the remainder of his life. But a medical man of fifty or sixty, after thirty or forty years' labor in the cause of health and life, is still called on by public opinion to work like a young man. If he does not rush night and day, not only to assuage real disease, but at the voice of vain fears and caprice, if he transfers night-work, and gratuitous or ill-paid attendances into the hands of his juniors, he is considered hard-hearted, mercenary, devoid of Christian and Samaritan feeling; in a word, public opinion makes it difficult for him to withdraw into the "Areopagus" of science, to become a deliberative and not a militant member of the profession. Nor is the public altogether to be blamed, because it is only by raising his fees that the medical practitioner can erect the barrier which is to defend him from the burden of work he is no longer able to bear. Thus, to many of the thoughtless it appears as if he merely wished to get a larger remuneration for his services, although his real wish is merely to eliminate, to keep at bay, many of those who would wish to employ him

The only means at his disposal to diminish work brings on him an odium he too often has not the courage to incur; so he works on, old and feeble, responding to every call, until at last death closes the scene, prematurely.

Between forty and fifty, a man of average constitution is quite equal to success and to the hard labor that it entails in any branch of the profession, to work by day and by night, to care and responsibility; although the weak ones succumb, as did Dr. Todd, Dr. Brinton, and many others I could name. But when fifty is reached and passed, the human economy begins to decline. The hair becomes gray, the sight fails, the gums abandon the teeth, adeps is deposited in unwelcome regions, and many other signs of nutritive deterioration show themselves. No doubt nutritive power is diminished in the entire economy, and the tendency to morbid nutritive conditions steadily increases.

This is just the time when the labors of the successful practitioner increase to the greatest possible extent; and as the brain is the last to give way in the intellectual man, he works on under mental and nervous pressure. By sixty, or thereabouts, the climax is often reached. The overstrained organization ceases to respond to the mental stimulus, and death ensues through some form of nutritive aberration, which has been slowly but surely progressing. Such was the case with our recently mourned brethren, Simpson and Nunneley, the one fifty-eight, the other sixty-one.

Can this sad expenditure of life among the worthiest of our profession be arrested, be avoided? I think myself that it might, if we would cease to live as if we were immortal, as if the diseases we saw daily did not pertain to us; if we would listen to the teachings of physiology, and discard the miserable vanity of thinking that we are exceptions to the general rule, and that at fifty or sixty we are as young and strong as at thirty or forty. To accept this lesson, however, we must analyze ourselves, and if we find ourselves wanting in vital power, thrust aside the scarlet cloak of nerve stimulants—alcohol, coffee, tea, by means of which, I believe, it is that efforts inconsistent with real vital and nutritive power are made by workers in general, and by medical men among the number.

A man who meets age or debility, or want of constitutional power by alcoholic stimulants, even in moderation, by coffee and tea, conceals his real nutritive condition from himself. When both the nervous and muscular systems are exhausted, and want repairing by legitimate nutrition—by beef, mutton, bread, and rest, a man may galvanize his economy by nerve stimulants so as to be equal to nearly any thing up to the last. But the process is a destructive one, exhausts vital power, impairs healthy nutrition, and lays the foundation for morbid organic changes.

By alcoholic stimulants, constantly repeated whenever exhaustion supervenes, the power of work may be supported until within a few days or hours of death, as we constantly see in the lower classes of life. Tea and coffee have nearly as great an apparent nerve-stimulating, strength-supporting power. Let any one who doubts it take a cup of strong tea or coffee when exhausted from want of food and from physical fatigue. The craving for nutritive elements to repair waste, and the sense of fatigue, both disappear in ten minutes, and a couple of hours' more abstinence and work are easily borne. But what have we done? The physical organization wanted repair, wanted the elements of nutrition, the nervous system rest, and we do worse than give them a stone, for we flog them, we galvanize them into continued action.

Night-work is principally done on such stimulation. The student, the writer, young or old, who retires to his study in the evening to work, does so on tea or coffee. The tired brain wants sleep; it is galvanized into intellectual labor. Is it surprising that morbid organic conditions should occur in the long run?—for we must recollect that the nervous system rules over all organic and nutritive changes, normal and abnormal.

Every June a *conversazione* takes place at the College of Physicians, which is usually attended by most of the medical and surgical celebrities of the day. This meeting gives an admirable opportunity, year after year, for watching the ravages of time and work. The young physicians and surgeons, as also those who have acquired reputation but as yet little practice, are more or less pink and rosy; their nutrition is mostly good. But it is far different with the heads of the profession, with the men above fifty, on whose shoulders rests the weight of London consulting practice, and who are making large, often very large incomes; they are mostly pale, or sallow, or anemic. As I walk among them I feel like Cassandra at the siege of Troy, and mentally prophesy evil—fatty hearts, atheromatous deposits in the arteries, degeneration of tissue, as the probable result of lives passed in contempt of the laws of hygiene and physiology.

What, then, is to be done to avoid the evils of

overwork in advancing age? Many of our brethren can not help themselves. They are like soldiers in battle: the *res angusta domi* offer an insuperable impediment. They can not rest; they must go on. But many, on the other hand, could increase their chances of life, if they would by despising riches, by throwing their less remunerative practice into the hands of their juniors, by giving up public appointments, by limiting their labors to what their real, undisguised, unassisted mental powers would enable them to do; and, finally, by retiring from the field of action before life has been used up by work to the last dregs. What if they do retire on a pittance compared to previous gains? Does not the colonel, the admiral, retire on half-pay, and constantly live to extreme old age as the reward?

What applies to our medical brethren applies to all; and it is our duty to lay, nakedly and sternly, these facts before erring patients. Is it not very evident that we have recently lost our most distinguished literary man, Charles Dickens, at the early age of fifty-eight, from continued overstraining of the nervous system?—in his case altogether without cause or excuse. On his return from America, he wrote that his readings during his tour in the States had much wearied and injured him. The constant traveling, the excitement of the meetings, the dinners, the receptions, had been too much for him. Had he then been made to understand that he was working against age and impaired vital power—risking his life, in a word—he might have taken rest, and been with us now. But he continued the same labors, the same excitement, and died from brain disease, regretted by a nation, prematurely.

Schoolhouses.

BY REV. CHARLES H. BRIGHAM.

THE change from schoolhouses of the old style to schoolhouses of the new style has come almost within a single generation. The old district schoolhouse is now as much a relic as the spinning-wheel and the "tin kitchen," and a score of other implements which were necessaries of life in the homes of our grandfathers. A few specimens remain at the corners of the cross-roads, and a few towns which civilization has left aside in its march, hold to the old pattern in their school architecture; but in almost every place, city or village, in the East or the West, the new "temple of science" has other form and proportion than the small, bare room, which was once quite sufficient. It is not perfectly demonstrated that, in all particulars, the new schoolhouse has improved the old schoolhouse. The old schoolhouse was usually ugly, but its ugliness was on a small scale, and not the gaunt, staring, grotesque ugliness of so many of the new brick monstrosities. It was not uglier, either than the houses of the village or the farms around it, and matched these fairly in shape and color. The old schoolhouse had loose joints, cracks in the window-sills, holes in the floors, leaks in the roof, and often a smoky chimney. But this very looseness of structure allowed free ventilation, and the pupils were not confined in a poisonous atmosphere. The old schoolhouse had a narrow area within, and no spare room for elbows, but it had with this ample play-room without, on the hillside and in the pasture. If the benches and seats were hard and unpainted, they gave more license to experiments in wood carving, and joined art to mischief. The "District School as it was" had genuine merits, and some characteristics which we can not afford to lose. It had no carbonic oxide to breathe, no high stairs to climb, no water-pipes to freeze and burst, no echoes to try the voice and ear, and "no danger in case of fire." It was easy to get in to, easy to get out of, and quite as easy, on the whole, to sit in for three or six hours, as the schoolhouse "with all the modern improvements."

The modern schoolhouse, doubtless, has many "improvements." It is more imposing in appearance, and more consistent with the dignity of its office. The old schoolhouse always gave the lie to the swelling phrases in which education was exalted as the chief of human interests. It would seem that if education is as important, as momentous, as high and noble, as are traffic and religion, the symbol of education, the schoolhouse, ought to illustrate that nobility and be as big as the warehouse or as the "meeting-house." They could not make the

teacher an equal of the tradesman or the parson, while he had to ply his work in a room of fifteen feet square, instead of a two-story store, or a long hall with galleries and a steeple. The modern schoolhouse vindicates in its bulk and volume, and tiers of windows, and probably its cupola above all, commanding a view of all the roofs, of house and store and church together—vindicates in this the honor of its function; it has a right to the metaphors of royalty. An ordinary teacher can take comfort and respect himself more in his calling when every one has to look up to him in his place of labour. A schoolhouse which is as large as a church or a factory will naturally in the minds of men and women be classed with the church and factory, as a chief public possession, and will magnify the office which it holds. Big schoolhouses have been both cause and effect in the improvement of the profession of teaching. They have grown from the grand words which have been poured out in public addresses, and they have opened fresh supplies of this flowing rhetoric. In the old schoolhouses the teachers could never come together, there was no room for them, and they could only feel the disgrace of their calling. But in the great halls of the new schoolhouses the teachers can take courage, as they congratulate one another, and see in what pleasant places their lines have fallen. The modern schoolhouse has made education a "cause," and teaching a "profession."

But in its details of convenience the modern schoolhouse excels especially the ancient structure. It has rooms of various sizes for study and for recitation, and ante-rooms and closets in addition. It has blackboards upon the walls, to illustrate all the branches taught, from the simplest orthography to the mysteries of the calculus. It has patent desks and patent seats, combining lightness and strength, and glossy in their shining. It has registers in the walls and in the floors, to carry off the noxious gases, and others to let in heat from subterranean fires. There is a clock above the teacher's desk, to mark the hours and beguile the weariness of tired students. There are maps of all kinds and sizes, outline maps, maps of towns and counties and States and hemispheres and of the globe, maps of physical and of civil geography, maps terrestrial and maps celestial. In one room there is a library, stocked with books of reference and of useful knowledge. In another room there is a cabinet of natural history, fragments of stones, pressed leaves and flowers, impaled bugs and butterflies, a few stuffed birds and rodents, and possibly fossils of extinct races; or a cabinet of materials and instruments to prove by example the doctrines of chemistry and physics. Photographs and engravings at intervals pleasantly join art to science in the school-room, and even busts are permitted upon their brackets. A piano or cabinet organ directs the music, and there are seats of honor for guests who may come. The better class of modern schoolhouses provide not only for the ordinary needs, but even for the caprices, of teachers and pupils. Comparatively few of the homes are better supplied. There is hardly any thing to suggest the pursuit of knowledge under difficulties, so constantly taught in the aspect, atmosphere, and appliances of the old district school.

Yet with all this multiplication of conveniences and contrivances, the new schoolhouse fails to satisfy those who would train the body along with the mind, and care for the health and safety of the children and youths who are gathered in these great educational nurseries. The long staircases of the three-story and four-story schoolhouses are not beautiful to one who considers the risk of fire and the danger of panic. The clean varnished patent desks and chairs only hold their occupants in constrained attitudes, and hinder freedom. The air that comes up from the cellar often comes loaded with the impurity which cast-iron and fossil coal have given it, and takes in the crowded rooms additional impurity. The dust is not so readily purged away as in the old schoolhouse, and it lies on the edge of blackboards, on desks and sills, on cornices, and floats in the sunbeams which glance in through the tall windows—dust of many kinds, too, of chalk and of cloth, as well as the dust of the highway. When the great schoolhouse is in the streets of an industrious city, where children most crowd its rooms, its very height exposes it more to the smoke from the factories, and the grime of soot is added to the common dust. For this schoolhouse, too, the rattle of carts upon the pavement, so jarring to the nerves, is the substitute for the hum of insects, which used to lull the urchins of the ancient school in the warm summer days. In most cases, moreover, the inner convenience of the new school building is gained at the expense of the outer play-ground, and those who have such nice seats to sit in, shaped to the frame, have no room to run in when they are released. The old schoolhouse, at any rate, could never be mistaken for a prison, which the new might often be, in the silent order of its discipline, so well adapted to its massive proportions, and its hard granite walls.

The new schoolhouses, on the whole, are an improvement upon the old, and we should not wish to restore anywhere in city or country the style of the old cross-road building, with its rickety windows, its hard seats, its narrow area, and its lack of conveniences. The progress which has been made under the leading of Horace Mann and his followers is real progress. But there is room for improvement yet, and schoolhouses are by no means what they ought to be. The new buildings—grand, stately, palatial, as they are, with all their fixtures, and all their display, do not "realize the ideal," or satisfy the physiologists. There is danger to the spine in those shining seats with their cast-iron frames. And especially in the infant schools is the confinement in those small arm-chairs a doubtful gain from the freedom of the ancient benches, on which the infants could tumble and roll, in defiance of rules. The new schoolhouses do not at all fit to the *kindergarten* idea, which, as we said in the last essay of this series, is the idea which is growing in favour. They have not expurgated from schoolhouses the feeling of a place of penance, from which escape is a hope and a joy. The model schoolhouse will get rid wholly of this penitentiary sense, and be no more a trial to patience than the house in which the family live. That phrase which is coming into use and which adventurers in education are swift to adopt, of a *family school*, suggests the type of building of the schoolhouse of the future. The question of this ideal building will determine in large measure the question of the duty and work of the "coming woman" and the "coming man," now so much debated. "Will the coming boy and the coming girl go to school in such houses as those that stand now so proudly in the streets and on the hills?"

What are the "indispensable requisites," if we may use such tautology, of a good, commodious, and healthy schoolhouse, which shall not only be up with the times, but shall be right from the sanitary "standpoint?"—(we must beg pardon of Mr. Richard Grant White for using that convenient German word).

1. In the first place, such a schoolhouse will have *plenty of room around it*, will stand upon a lot that is large enough to give ample room for the sport of children in their half hour or quarter hour of freedom. Its area will not be bounded by a few square feet around the tall walls, with a high fence of board or iron to mark the inexorable limit. The more scholars it contains, the more space for play is needed around the building. This rule of size is practically inverted, and is made in many cases to read, "the larger the building, the smaller its play-ground." A schoolhouse that holds twenty children gives them "all out-doors" to run in; they may take to the road or leap the low fences, or chase squirrels in the wood. Their play-ground stretches as far as they can hear the sound of the bell which calls them back. A schoolhouse that holds a thousand children, on the contrary, must turn them out in sections into pens as narrow as the cattle-pens by the stations of the Western railways. The "recess" of one of these great city schools is a melancholy sight to one who has been accustomed to the free sport of children around the country schoolhouse. A fair calculation would allow at least as the play-ground to a child as many feet as a man ought to have in his work. For a school of a hundred pupils half an acre is little enough, and when the number of pupils is doubled or trebled or quadrupled, the full acre is not an extravagant allowance. Four or five acres would be better still. A small schoolhouse in a large ground pleases the eye much more truly than a ponderous building that nearly fills the lot on which it stands.

It may be said that in the larger cities so much space can not be spared for school purposes, and that a lot of an acre or half an acre in size would cost a sum altogether beyond the means of the tax-payers. Where land is sold by the square foot it is idle to talk about *acres* for school purposes. To this argument we have no answer except to say, that the amount squandered annually in the larger cities upon useless officers, and foolish junketings, and unlawful appropriations, would purchase all the land necessary to give every schoolhouse a square of its own. In the smaller cities and villages, this ample space around the schoolhouse can be secured without any unreasonable outlay. A schoolhouse on a lot of a hundred feet square in any town of less than 20,000 inhabitants is an evidence of public meanness, hardly less than the meanness of a town of which we once heard, where the schoolhouse was built by the side of the graveyard, because that was public property and might be used without charge. Even if the land costs more than the building, it is better to get it and to hold it for its purpose. A church lot, where the building is only used for an hour or two on Sunday, and there is no expectation of sport in the intervals of worship, need not be very large, not larger than the needs of light and air require; but a school lot ought to be to the building which it incloses what the piazza of St. Peter's is to the Basilica; and it would be well also if it had the colon-

nades, in provision for rainy weather. The best blessing to the children will he that which is given to them in the open air, and not under the roofs—just as the successor of St. Peter gives Apostolic Benediction to the company under the sky, and not merely to the cardinals and bishops around the Baldachino. Plenty of play-ground free from fences and obstructions, and not curtailed by any prim landscape gardening, or lawns tabooed to flying feet, is the first requsite of a model schoolhouse.

2. Next we mention as essential to a good schoolhouse, *a well deep enough and capacious enough to insure a constant and unfailing supply of water.* Where there is an aqueduct, as in a few of the larger cities, such a well is not necessary, but the *water* ought always to be accessible and always abundant, enough to meet every need of thirst or cleanliness. A schoolhouse is poorly furnished that has no sink or basin, though it may have rods of blackboard. Water in every story of the house and in all the dressing-rooms, is just as important as the maps upon the walls, or the hooks for shawls and cloaks. The means of meeting physical thirst must be at hand as much as the means of meeting the thirst for knowledge. One of the luxuries of the old district schoolhouse was its pail by the door, which it was such pleasure to the urchins to fill from the neighboring well. How many of the new schoolhouses are chary of this bounty the summer visitor knows to his sorrow, after he has toiled upon the long stairway, and reached, half fainting, those sky parlours of instruction. We heard it once given as a reason for not carrying water into the schoolhouse, that so much of it was spilled in using, and that a dry floor could not be kept where there was an active flow from pump or pipe. But the fresh water is worth more than the dry floor, and it helps the activity of blood and brain in the discharge of school duties. There was a school in one of our cities which gained popularity because there was a confectioner's shop on the ground floor, with a soda fountain, where the pupils passing up and down could solace themselves with lollipops and foaming sarsaparilla. That style is good, at least as far as plenty of water, which costs nothing, and makes the hands clean and the voice clear to speak and answer.

3. In connection with this second essential of a good schoolhouse we may mention a third, that *the outbuildings be ample in number, easily reached and without exposure, and be kept pure from nuisances.* Every wise Suporintendent of Schools will visit the outbuildings, before he decides that the school is what it ought to b No apparatus of outbuildings is suitable whe mephitic odours hang in the air, or where the is not sure means of removing or purifying e crctions. In some cases the "closets" of tl school are within the building, for the sake convenience and neatness, but it is doubtful much is gained by that arrangement. It safer to separate them from the halls and inn rooms, and to bring them nearer to the pla ground. The fault is usually that there are t few of them, and that they are not well co structed. Material that can not well be defac is better in their construction. A large propo tion of the vicious habits and vicious langua of school children, which so vex and mortif anxious parents, is learned in the associatio and practices of these outbuildings and from th legends and figures on their doors and walls This is an evil that escapes rebuke too ofte from the prudery which avoids allusion to an thing that is disgusting in connection with th methods of education, yet it is one of the wors most obstinate, and most insidious of all th evils which beset the union of children in larg companies. Where the outbuildings are vil and filthy, either by what they show to th eye or to the other senses, it is vain to hop that moral lessons from the teacher's desk wil have much influence. The varnish of spotless seats and wainscots in the rooms above will b fatally tarnished by the obscene blots, which ar remembered as long as the lessons.

4. *Broad door-ways, broad staircases, and wid and airy entrance-halls* are another essential par of a commodious schoolhouse. A cottage doo which opens inward, and a steep stair-way, o which only one or two children can step abreast are absurd in a building which pretends to b convenient. The staircase should be wid enough to allow as many abreast upon it as ca sit on a line in the seats of the school-room and should be long enough to obviate the danger of falling. The halls should have room enough for easy movement, without crowding or jostling. A good schoolhouse will have quite as many facilities for ingress and egress as a theatre or a custom-house. Parsimony in this matter is disastrous in the end. We saw it once proposed after an accident in a New York schoolhouse by which many lives were lost, that cranes should be fastened above all the windows, with pulleys and baskets attached, so that, in case of fire or panic, the children might be lowered from the windows, and not exposed to the rush and trampling of crowds upon the stairway. Such a proposition, carried out, might

ve a fine Scriptural and ecclesiastical finish to
e fortresses of juvenile learning, suggesting
once the tower of the Cologne Cathedral, and
e escape of Paul from Damascus. But, on the
iole, a schoolhouse with wide interior pas-
ges will be more economical and more pleas-
g to the eye than one which is garnished with
ch bulkheads above the windows, and such
inging baskets. The basket apparatus will
tter fit that time which some see in the near
ture, when to man shall be given the king-
m of the air as of the earth, and schools shall
avel in balloons, studying the wonders of
rth and sea and sky in a panoramic way, as
e car is wafted onward. The schoolhouse is
t yet ready to be fashioned in that transcen-
ntal shape. A full quarter of the building
ght to be in its halls and passages.

5. And then the good schoolhouse will have *enty of light*. There will be in it no dark
oms, no rooms which will be used for study,
here even on the darkest day of winter the
e is strained to read the page or to trace the
monstration on the blackboard, no rooms
hich need in school hours any artificial light.
here can not well be too many windows in a
hool-room for needs both of light and of air.
the colour of the walls and the arrangement
the desks, indeed, there should be relief from
ie glare of light, which might injure the eyes
id in the bright days of summer there will be
mfort in blinds and shades. But a school-
ouse which is imperfectly lighted, which can
ake from the sun only so much of his rays as
ight come into a Fifth-avenue drawing-room,
rouded in upholstery, or a Gothic Cathedral
ith painted windows, is an outrage upon com-
ion sense. An architect who should propose
put stained glass into the windows of a school-
oom, even if this should celebrate the virtues
f its martyrs, would probably be dismissed for
is presumption. Yet his folly would be no worse
han that of a building committee who should
ssen the number of windows in order to get
nore wall room for blackboard; as did a com-
nittee that we knew. A school building ought
o be so placed that it can be lighted from all
ides, and that its central passages can be lighted
rom the roof. It ought never to be in a block,
r to be wedged in between dwelling-houses or
warehouses. If there are school-rooms on all
ts sides and corners, every side ought to be a
ront. It ought to have no look of a baron's
astle or an artist's studio.

6. Of course *good ventilation* is a necessity in
a commodious schoolhouse. All the other con-
veniences are nullified if the air is not fit to
breathe, if it is left to stagnate or can only be changed by the letting in of cold draughts from open windows. Perhaps the right way of ventilating schoolhouses as of ventilating churches and dwelling-houses and railway-cars has not yet been revealed. Let the best way be tried that is already known. Why should not every large schoolhouse have a fan in the cellar, which might be moved by air heated from the furnace or by the steam which is generated in the boiler? That no perfect apparatus has yet been found is no excuse for neglecting ventilation altogether, especially when double windows almost hermetically seal the school-rooms.

7. And finally, in the furniture of the school-room, *there should be provision for ease of posture and freedom of motion*, there should be room for the body as well as for the head and the hands, and the feet should not be fastened in any place, as if the pupil were set in the stocks. We are happily beyond the time when the test of industry was in steady bending over the text book, and when the rod rewarded with stripes the unfortunate wight who should lift his head and look around. If lessons are only faithfully learned, the pupils in the school-room may be indulged in that attitude of relief which was once the infallible proof of "idleness." The desks should be so constructed that this privilege of the present generation may be fairly enjoyed. Every scholar should have room for back and elbows and legs and feet, and should be able to change his position without interfering with neighbors on either side. All the light gymnastics of Dio Lewis or the heavy gymnastics of the athletes, practised in the short moments of "recess," will not make up the want of freedom for limb and muscle in the hour of sedentary study. There is a snare in this shapely and glossy furniture, when it is another form of the straight jacket and the pillory.

LEAD PIPES AND WATER.—In the city of Aberdeen the supply of water amounts to 1,000,000 gallons daily. It is distributed to the houses in lead pipes. Chemical examination of the water showed that there was in each gallon of water rom one-twentieth to one-hundredth of a grain of lead. During 17 years no case of lead poisoning has been known to be caused by this small amount of lead. Galvanized iron, and lead pipe lined with tin, are both condemned by the best authorities. Two metals in juxtaposition are both oxidized when brought in contact with water by the galvanic action.

THEORIES PUT IN PRACTICE;
Or, Extracts from the Diary of a Physician's Wife.

EDITED BY MRS. H. C. BIRDSALL.

WEDNESDAY, *July* 19.

THIS afternoon and evening I attended the Sewing Society at Mrs. Bowers. There were several elderly ladies present, who seemed quite prominent in the affairs of the Society. They constantly addressed each other as "girls," and with as much spirit as if they were in reality girls.

At first I was amused by it, but afterward I felt that there was something touching about it, too; for the oldest may be young in feeling, and may *ever* be young in God's sight. Sewing Societies are almost proverbial for being "schools of scandal," but I am sure the most particular man could have found no fault with this one. In the evening a good many young people came in, and it was very pleasant to see the genial, cordial spirit among them. There were no *tête-à-têtes*, no dividing into cliques, apparently no flirtations; and this is certainly a little unusual and remarkable among twenty to thirty young men and women. To-morrow we shall start on our Western journey.

August 26.—We reached ——— on Thursday, and I was so tired that I have done little but rest since then. Our journey out was a delightful one, as we went slowly, and with frequent stops at places of interest. We were hastened in our return by Dr. Moody, who received a sudden call home. About the same time news came to Henry of a legacy, to which he must pay immediate attention. We seem to be in the way of legacies, though Henry's is in not quite so pleasant a form as mine, a not very agreeable Aunt having fallen to his lot. She has lately lost her husband, and is left with very small means. She will be without a home, unless we take compassion upon her. Henry left the matter entirely to me for decision, telling me plainly the peculiarities of his Aunt Sarah. I have given my consent, and she will be with us some time next week.

During our absence I lent our Topsy to a friend, who has a number of children, and her report of Eliza's behavior with the children, and her management of them is so favorable, that the thought has come to me that, perhaps, I am doing an injustice to the girl in keeping her in a position she is not calculated for.

Sunday, August 27.—This is our last Sunday alone, and I can not help regretting it, for our Sundays have been such peaceful, happy days but it may be better for us to have something to keep us from self-absorption and selfishness.

Henry and I have been talking about Eliza and our conclusion is, that it is just as mistaken to keep a servant girl in a wrong position as it is to start a person of superior intelligence in a course of life not suited to his tastes.

About all I can get directly from Eliza in talking with her is her oft-repeated saying: "I does like chillen wonderful, mum." I have decided to let her go when I find a really good place for her, and when I suit myself with another girl.

Tuesday, 29th.—Aunt Sarah made her appearance to-day, and what an appearance it was! She came in the noon stage from Plympton Station, and it seemed as if all her possessions would never be unloaded. There were three trunks, one with an ancient round top, in the condition of the head of Uncle Ned, so well known to lovers of negro minstrelsy; four bags of different shapes and sizes, two bandboxes, a large basket containing the homeliest and greenest-eyed of yellow cats, another one filled with jellies and preserves left from Aunt Sarah's housekeeping, two umbrellas and a parasol, a cane which she keeps to remember her deceased husband by, a large shawl, a modern traveling-bag, and a bottle of brandy in her hand. The last-mentioned she declared that she can never be without, as she is greatly troubled with a "goneness at the stomach." After these things were landed in safety, a huge Boston rocker was handed down, which Aunt Sarah considers as necessary to her comfort as any of her possessions.

My heart sinks within me at the thought of constant companionship with this woman. She is tall and large, and walks with a short quick step, which is at the same time ponderous, making all the floors creak. Her head and face are round and fleshy, and she has small, pale blue eyes that look particularly cold and prying. She said very little at dinner, but I often found her small eyes fixed upon me, and from this and some peculiar noises in her throat, something between a cough and a groan, I imagined that

she was not altogether pleased with something. But I must try not to imagine—I am very apt to do it—and I know from my own experience, and from observation of others, that it is a very unprofitable employment.

Wednesday, 30th.—It is like a breath of fresh air to get away from our legacy to sit alone for a time. I have been with Aunt Sarah all day, and I know that if we do get along it will be with constant self-repression and control upon my part. Her views upon all subjects are so different from mine that we can never harmonize, and I shall save much valuable time in not striving for that which can never be. What I must strive for are good nature, cheerfulness, a firm stand in my own position, but at the same time leniency toward the views so contrary to mine. Each day I must start out with my armor on, but must try to take all the comfort of its protection without any of the discomfort of its control.

Friday, September 8.—Mrs. Venner, the wife of an intimate friend of Henry, is very sick, and I have spent most of my time during the last week in her sick-room. Mrs. Venner's sister and sister-in-law live with the family, but although they are very anxious to take good care of their sister they do not succeed. The sister is one of those weak, incompetent persons, who have apparently not an idea of what is right and proper to do for the sick. The sister-in-law in her undirected energy represents the other extreme. She considers herself the most efficient of nurses, and is continually recurring to her skill. She never sits still, but bustles about, shakes up pillows, changes the position of furniture, and creaks round the room in a concentrated effort to keep still. When she can find nothing else to do she plies the sick one with reiterated requests to endeavor to think of something that she would like to eat or drink, or to have done for her. It required a little bit of management to work myself in as occasional nurse, but Mr. Venner and Henry kindly assisted. I wait under the plea of relieving them from their continued watching, and Mr. Venner induced his sister to leave his wife to my care by telling her that the children were suffering from want of attention, and that nobody could see to them as well as she. The spice of praise worked like a charm in turning the current of her energies.

I have done my very best in practising my theories about nursing, and I have the satisfaction of feeling that I have been a comfort to Mrs. Venner. I have a great deal to learn yet about the art of nursing, and this I can best do by practising upon every opportunity.

Saturday, the 9th.—Aunt Sarah is not at all chary of her blame for my conduct in spending so much time at Mrs. Venner's. Last night, at the supper-table, she said, "Well, Henry, I am glad that *Ann* (she will persist in calling me *Ann*, a name never before applied to me) is going to spend a little time at home. My Good Book tells me that wives should be 'keepers at home.'" Henry replied by explaining this in the simple, natural way, and then said, "Aunt Sarah, don't you remember that our Good Book also gives us the best of examples of going about and healing the sick, and doing all kinds of good?" "I am afraid, Henry," she answered, "that you haven't recovered from your habit of perverting Scripture—any person who reads his Testament knows that Jesus Christ's habit of going about to heal the sick, and in other good works, was not intended for the imitation of women who have houses and families to attend to—else what should the Apostle Paul have been inspired to give this direction for?" Henry made no reply, at which I was a little surprised, for it looked almost like an abandonment of his position, but he afterward explained it to me. He said that Aunt Sarah knew him so well that she understood that he held to his first position firmly. An answer would have provoked her to an interminable discussion of that blind, one-sided kind to which she has been used from her youth up. Henry's father formerly lived in Littleton, the place from which Aunt Sarah came, and he says that he, when quite a little boy, often used to draw near the group of men gathered round the stoves in the old church, of a winter's morning, and listen to their repeated discussion of truths that were so plain as to need no argument.

His father never joined in these talks, and at home both his father and mother accustomed him to such a clear, decided way of accepting plain truths, that he learned soon to perceive how mistakenly these men often set up their individual opinions as authority in matters which they did not understand.

Thursday, September 14.—I have let Eliza go to Cousin Emma, and I am supplied with an Irish girl by the name of Madge. She came to me recommended by a farmer's wife, who has found her good help. I already think her an original among the gems of the Emerald Isle. I expected her the day that Eliza left, but she

did not come for two days after. The first notice of her advent was the sound of vigorous scrubbing in the kitchen. Going to see what it meant, I found Madge just arrived, her shawl laid aside, but her bonnet still on, scrubbing the three kitchen tables by turns. The only reason I could think of for so energetic a beginning of her labors was that she was affected with the feeling, that so many people have, of not knowing what to do with their hands in unusual circumstances. Aunt Sarah looks with favor upon Madge, for so far the latter pays the most respectful attention to her moral precepts. Our Topsy generally showed her teeth and tossed her head with a significant air, and followed up the advice by some comical performance, which seemed to convince Aunt Sarah that Eliza could not by any manner of means be one of the elect. Every Sunday I gave Eliza such religious instruction as I thought suited to her capacity, and I believe that the girl sincerely wished and tried to do right. Aunt Sarah's uniform, cold way of approaching people will never answer for all. The better we understand character in its variety the better we can accommodate our instructions, religious or otherwise, to those with whom we deal, and the greater influence we may have.

Sunday, September 17.—How thankful I ought to be, and I think I am, that my husband is thoroughly high-principled. I have been thinking about it a great deal for the last few days, and particularly to-day, in the quiet of my own room. Lightwood, for a country place, is a very trying one for young men, for there is one person here who exerts a powerful and bad influence over them. He is a lawyer, of fine talent, and a very fascinating, entertaining person. He is possessed of that rare gift, for which I know no better name than magnetic influence. I have seen the gift in a good man, and its effect was wonderful in drawing others up to a love of the good and beautiful—but it has the most pernicious effect when used by a man like Mr. Corning. He speaks with the most measured and polished respect of Christianity, but his daily life shows that he does not believe what he says. Seven of the best young men of the place he has led away into his habits of *refined carousal*. Four of the young men are married. Not one of them would be seen in the low grogshops of the village, but their example has undoubtedly had a great influence in leading young men of inferior intellect and position into the latter places. One of the young men, who is married, holds a responsible position in the Lightwood Bank, but his habits are so interfering with the proper discharge of his duties, that he has received two or three admonitions, and, quite lately, a notice that further misconduct will procure his discharge. Henry is frequently begged to join these young men in their wine and card parties, but he invariably refuses, plainly giving the reason that he is strictly temperate and intends to be all his life. Then Henry is so honest, honest according to a woman's ideas, which, it seems to me, are generally more right than men's.

Tuesday, September 19.—I spent part of the morning with Miss Margaret Stanton, who has been quite sick. I met there a very peculiar doctor, and his more peculiar wife. The doctor I had seen once before. One day last summer Henry had a call to Milburn, a place ten miles distant, and I went with him. Just before reaching the village we were surprised by the sight of a man rushing in haste from the gate of a pretty place and waving a large paper in his hand. He came directly toward us, and Henry stopped the buggy. The man, still waving the paper, said, "Doctor, doctor, here's my diploma—look at it—take it right in your hand and examine it. There, now, you see, I'm a regular practitioner—the prejudice against me has no foundation,' etc. etc. etc.

Henry looked over the paper, and said that it seemed satisfactory. The man, a singular, wild-looking individual, was ready to enter into a long conversation upon his own merits and qualifications, but Henry drove on. It seems that he is a man of one idea in regard to disease. All his patients have liver disease, and all are treated alike by him, with one "sovereign remedy for all the ills that flesh is heir to," a remedy concocted by himself and kept on hand by the gallon. The remainder of our drive was enlivened by the most absurd anecdotes of this man and his wife, many of them so extravagant that I was quite suspicious that Henry was manufacturing some of them. Since the interview of this morning, however, I am prepared for believing almost any thing about them. Miss Stanton sent for this doctor in the first place, but he being ill, she employed Dr. Andrews, who soon brought her to a convalescent state. While I was with her this morning we were surprised by the entrance of this erratic doctor, much wrapped up and escorted by his wife. Just nodding to Miss Stanton, she marched the doctor to a lounge, and said,

"Lie down there now, and keep still." He obeyed, and she went on, "Now, I'll go and attend to the horse, and"—with a threatening shake of the head—"don't you get up nor speak while I am gone." I gazed in mute astonishment, but I was to see and hear more remarkable things. When the woman returned she entered into business at once by saying, "Well, Margaret, how are you feeling? I was very sorry the Doctor couldn't come to you when you sent for him, and it is at the risk of his life that he comes now." "Yes," piped up a voice from the lounge, "at the risk of my life. I have been a great sufferer, and no consideration but a wish to attend you in your illness would have indueed me to come out now." His wife impatiently broke in, "You keep still. Now Margaret, what did Dr. Andrews do for you?"

Miss Stanton gave the course of treatment in a few words, and added, "It worked like a charm, and I'm mendin' very fast." The Doctor's wife, with a mournful expression, said, "Margaret, you're wofully mistaken; you have a dangerous attack of liver disease, and you ought to have your knees and soles of your feet rubbed with salt before each meal, and take the Doctor's liver panacea once an hour. Isn't that what she should do, Doctor?" "Exactly, my dear," squeaked the Doctor; "your judgment is unfailing. Miss Margaret is in a dangerous state, and her only hope is in a change of physicians. You can tell her what I am willing to do for her."

"Well, Margaret," rejoined the wife, "the Doctor feels such an interest in you that he is willing to sacrifice his own health to take charge of your case. Turn away Dr. Andrews, and the Doctor will commence at once the only course to save you."

Knowing Miss Stanton's confidence in this Doctor, I was afraid she would yield to the double solicitations, but was so pleased with her answer, "Dr. Andrews done well 'nuff for me; I'm sorry the Doctor couldn't come, but I'm suited with the way I've got up, and I don't 'spect to make no changes," that I could have jumped up and hugged the old lady for her firmness. Thinking I had heard enough I took my departure, and spent my time while going home in wondering whether the practice of my pet theory would involve my being any thing like this woman. The result of my pondering was, that the cases are so different as to require no comparison. I have never had a thought of interfering with Henry's medical practice, but of following up his treatment with those little womanly attentions which no man can give—and this not in every case, but when it seems perfectly right and proper.

Arguing.

BY F. B. PERKINS.

THE use of arguing is to find out how far we agree.

This is a direct contradiction to the prevailing practice in arguing, which is, between ladies and gentlemen generally, about the same as between a couple of attorneys in court—a strife to beat the other side in this particular case, irrespective of principle. It is a lawsuit in which the combatant is at once client, lawyer, and judge. The natural result is, that each side always awards itself the verdict, and the parties are exactly where they were when they began, only more so.

Brute force is close behind the justest judge—and an immeasurable shame it is to the thin varnish that calls itself Christian civilization. But not a verdict, nor a decision, nor a sentence in the United States would be worth a cent were it not for the Sheriff and his posse, who step right up to any recusant, fists clenched, club lifted, or pistol cocked. They knock him down, they smash his door, they seize his goods, they drag him off and lock him into a hole between stone walls. No violence, no justice!

Now, there is no sheriff in conversation. Hence the void verdicts of ordinary argument. The parties in interest are each man his own sheriff, too, as well as judge; and if, to use a legal phrase, either party attempts to "levy execution," it is a breach of the peace; for in such cases execution issues, if at all, against the body.

The United States is, theoretically, the best place for fair argument. The theory of this country is, that it uses the least of mere compelling law, and accomplishes the most by the

superior supplementing method of intelligent self-control. But fact and theory do not correspond in this point. Good manners is, up to the present date of human progress, a more powerful promoter of fair argument than free institutions. Well-educated Europeans, as a general thing, are fairer arguers than Americans.

Did any plaintiff or defendant ever become convinced that he was wrong, because the suit went against him? No, indeed. Much less, then, when there is no tribunal with power. If litigants are unconvinced, far more arguers.

Arguing, as usually managed, amounts only to stiffening one's convictions by defending them against the mistaken views of another. I shall soon forget the funny example of this definition once afforded me by an excellent lady who had written a book. She asked me to read it, and we had thereupon a conversation nearly as follows (the book was argumentative):

I.—What for?

She.—I want you to note your objections to the argument.

I.—But don't you think you're right?

She.—Yes. I *know* I am.

I.—Well,—of course. But now, just suppose—for the sake of the present argument, merely—that you were wrong, and suppose I could construct an actual proof—a demonstration—of it. Would it convince you?

She.—(*With some hesitation, but squarely at last.*) No, it wouldn't!

I.—Well then, for goodness' sake, what's the use of my reading it and noting my objections?

She.—*I want to show how mistaken they are, and thus strengthen my argument.*

I didn't do it.

I began by saying that the use of arguing is to find out how far we agree. That is the first use. If we know that, we shall not need any controversy to know how far we differ—*that* follows of itself. But suppose we find out that up to a certain point we go on together, and all at once there is a fork in the road, and one of us takes one road and the other the other?

At this point stop arguing, and *compare views;* or else talk about something else. Two people usually have diverging beliefs on many points, and reasons which are satisfactory to each mind for its own belief. He who loves to learn can always find instruction in comparing his own views with those of another. Almost any one enjoys stating his beliefs, and his reasons for them. And, after your interlocutor has done this, in answer to your inquiries and observations, if he doesn't want to hear yours,—why, he gives you his values free, instead of exacting a compensation, and you have the best of the bargain.

A very good rule for arguing is, to talk from the same state of mind as if you were seeking counsel. Seeking counsel, as I look at it, is not, however, the holding up an empty bag on one hand and the emptying into it of "solid chunks of wisdom" on the other. It is the vivifying contact of two minds, more likely to result in the striking out of a valuable suggestion from one or the other of them, than the solitary brooding of one alone. I have frequently been applied to for advice, and have frequently been helpful to the applicant. Not because I had the dose he wanted, all labeled and ready, like a quack medicine in a vial, by any means. My way is to sit down with the applicant and talk the matter over. If some useful suggestion does not come out of an earnest talk, where both parties are kindly, and where one wants help and the other wants to give it—why, they must be a couple of cabbage-heads; and I don't propose to admit this to be the fact where my head is one of them.

This way of arguing will prevent irritation, and therefore it includes the obvious rule, Keep your temper.

It will prevent the very common proceeding of trying to trip up your adversary, by taking advantage of some error or imperfection in his statements. To take such an advantage in business would be scorned by any fair man, but it is seldom thought unfair in arguing. Yet the trick is just as petty in one case as in the other.

It will prevent personalities, and the excusable anger which they cause.

It will prevent quibbling on words—another fruitful cause of excusable anger in argument.

For my own part, I greatly enjoy the process of comparing my opinions with those of other people, but I abhor what is usually called arguing, and never intentionally get into it. My experience is that my views may be changed after deliberate reflection on a new idea, suggested in the course of a comparison of views with another. But I don't think I ever had a good hard "argument" with any body, without being hardened in my own belief and feeling that my adversary was an ill-tempered ass. This is not a good thing.

THE man who has a clear conscience is rich.

Inherent Death.

BY E. RAY LANKESTER, B. A., OXFORD.

LET us now parenthetically inquire as to this inherent cause of death—this something in the organism which, more clearly than the other structures and properties of the organisms, limits life. We say, "more clearly," for it is impossible to regard what was ascribed to "external agencies," without remembering that they have their correlatives in the organism itself.

How is it that absolute potential longevity is made to have a limit by heredity? How is it that natural decay is hereditary as to time and effect? The whole subject of the hereditary transmission of specific characters has been recently treated of by Mr. Darwin in his volumes on "Animals and Plants under Domestication," and the ingenious theory of Pangenesis started to explain and collect all these phenomena under one head. Though Mr. Darwin does not allude especially to senility, he mentions at length periodic developments agreeing as to the time of their appearance in both parent and offspring. The theory of Pangenesis is thus stated: "I assume that cells before their conversion into completely passive or 'formed material,' throw off minute granules or atoms, which circulate freely throughout the system, and when *supplied with proper nutriment multiply* by self-division, subsequently becoming developed into cells like those from which they were derived. They are supposed to be transmitted from the parents to the offspring, and are generally developed in the generation which immediately succeeds, but are often transmitted in a dormant state during many generations, and are then developed. Their development is supposed to depend on their union with other partially developed cells or gemmules which precede them in the regular course of growth. Gemmules are supposed to be thrown off by every cell or unit, not only during the adult state, but during all the stages of development." (Darwin, loc. cit. vol. ii, p. 374.)

We may use this theory to explain the hereditary character of senility. The gemmules, "when supplied with proper nutriment, multiply." As long as there is nutriment for them they will continue to be produced, but when the superabundance of nutriment ceases, which, as we shall see, is soon after growth is quite completed, their production ceases; they are thus limited in number, and, being called upon in repair and reproduction, are gradually exhausted. But it is not necessary to have recourse to the pangenetic gemmules, which are only considered by Mr. Darwin as provisional hypotheses. The physiological units of Mr. Herbert Spencer, which he describes as follows,* will suffice as an assumption; or, indeed, we need go no further in explicitness than is involved in the assumption of "a matter of life." What we have to explain is why Mr. Spencer's units, or the "matter of life," should be limited in quantity in various organisms, so that life terminates at different periods, even when two species compared appear to have been subjected to the same external agencies. The old writers distinguished the "*vires in posse*" and the "*vires in actu*." The aged, they said, had not, as the young, this under-stratum of "*vires in posse*" to call upon in cases of exhaustion. "We must never forget to insist," says M. Reveillé Parise, "upon this fundamental principle, that the unknown force of life, *vis abdita quædam*, diminishes more and more with the progress of age." "*Ex viribus vivimus*," said Galen. A young man is commonly said to overtax his strength and to injure his *constitution* by great expenditure of force when young. The common idea expressed in these various statements of opinion is that a store of life-force or life-material exists, which the young accumulate, which increases up to a certain amount, but which ceases to do so at some period, and thenceforward dwindles. Professor Huxley has well expressed this in terms of life-material, in a lecture delivered at Edinburgh in January, 1869. "At any rate," says Professor Huxley, "the matter of life is a veritable *peau de chagrin*, and for

* Mr. Spencer, after describing the organic "polarity" seen in the phenomena of repair and development, says, "If then this organic polarity can be possessed neither by the chemical units nor the morphological units, we must conceive it as possessed by certain intermediate units, which we may term *physiological*. There seems no alternative but to suppose that the chemical units combine into units immensely more complex than themselves, complex as they are; and that in each organism, the psychological units produced by this further compounding of highly compound atoms, have a more or less distinctive character. We must conclude that in each case some slight difference in their mutual play of forces produces a difference in the form which the aggregate of them assumes"

every vital act it is somewhat the smaller. All work implies waste, and the work of life results directly or indirectly in the waste of protoplasm." Is there any direct evidence of the existence of such a store of force or material as is evidently usually supposed to exist in organisms? If we look at the question from the point of view of force it makes little difference, for force implies matter in a particular condition. It could not be maintained that one organism might possess a greater store of vital force or life-power than another, without there being some *material* representative of that force. Hence we must—whether taking force or matter as our text—look for some matter in the young which disappears in the old. Protoplasm, the physiological basis of life, which no doubt is the same thing as that which Dr. Beale terms "germinal matter," is a matter which by its increase or accumulation in an organism must increase its power—in fact, its amount of life; and, conversely, when diminished, the amount of life must be diminished. It is from the changes of this germinal matter that the formed tissues result, that repair is effected, force evolved, nutriment elaborated, secretion manufactured; and it is a matter of observation that this germinal matter is more abundant in young than it is in aged organisms. The numerous preparations of tissues, and their description by Dr. Beale, the result of his carmine process, clearly demonstrate this, and it is on all hands admitted. The quotation which follows from Mr. Paget is a fair description of that diminution of repairing power to which we shall have to refer, while Dr. Marshall Hall has largely detailed the decline of the vital powers in old age:

"Some people, as they grow old, seem only to wither and dry up; sharp-featured, shrivelled, and spinous old folk, yet withal wiry and tough, clinging to life, and letting death have them, as it were, by small instalments slowly paid. Such are the 'lean and slippered pantaloons,' and their 'shrunk shanks' declare the pervading atrophy. Others, women more often than men, as old and as ill-nourished as these, yet make a far different appearance. With these the first sign of old age is that they grow fat; and this abides with them till, it may be, in a last illness, sharper than old age, they are robbed even of their fat. These too, when old age sets in, become pursy, short-winded, pot-bellied, pale, and flabby; their skin hangs not in wrinkles but in rolls; and their voice, instead of rising 'towards childish treble,' becomes gruff and husky."

The germinal matter which abounds more in youth than age, obviously embraces Mr. Spencer's physiological units, thus accounting for and correlating its power of general and special repair. It also must include Mr. Darwin's gemmules, and must be immensely called upon therefore in reproduction, far more largely, perhaps, than is represented by the mere bulk of the generative products. Mr. Spencer recognizes this, and alludes to the shrinking and diminution of the germinal matter in advancing life in the following passage: "Protoplasm, which has become specialized tissue, can not be again generalized and afterward transformed into something else, and hence the progress of structure in an organism, by diminishing the unstructured part, diminishes the amount available for making offspring; or, we may add, for carrying on the work of life. This same store of living matter is called upon and reduced in cases of great expenditure of force, such as are greater than the contemporaneous power of assimilation can supply; and it seems not improbable that this germinal matter may be the store from which Professor Parkes supposed a muscle to draw a supply of nitrogenous aliment in the absence of nitrogenous food, and when only carbo-hydrates and hydro-carbons had been supplied. This is consistent with what is known of the great danger of excessive exertion, especially in the absence of abundant nutriment.

The ovum is composed, in its very earliest stages, of nothing but this protoplasm. As development and growth advance it gives rise to the formed tissues, increasing itself also in bulk. But the germinal matter never increases at the same rate as the whole organism; it is always diminishing relatively to the whole, though increasing absolutely as long as growth continues. This gives us some insight into the way in which the change in the vitality of youth and age occurs.

But there is a more important action than this. What is it that limits growth? what gives the limit to size? Mr. Herbert Spencer ("Principles of Biology," vol. i, p. 128) very fully enters into this matter, and clearly shows that *expenditure* (expenditure which uses the matter of life, and prevents its accumulation) increases more rapidly than growth; there is not a direct agreement between the increase of the one and of the other. This appears from the following considerations. It is demonstrable that the excess of absorbed over expended nutriment must, other things being equal, become less as the size of the animal becomes

greater. In similarly shaped bodies the masses vary as the cubes of the dimensions, whereas the strengths vary as the squares of the dimensions. "Supposing a creature which a year ago was one foot high has now become two feet high, what are the necessary concomitant changes that have taken place in it? It is eight times as heavy, but the muscles and bones have increased their power only in proportion to the areas of their cross sections; hence they are severally but four times as strong as they were. Thus, while the creature has doubled in height, and while its ability to overcome forces has quadrupled, the forces it has to overcome have *grown eight times as great.* Hence, to raise its body through a given space its muscles have to be contracted with twice the intensity, at a double cost of matter expended." Mr. Spencer shows that the same relation is true for the absorbing surface, which has only increased fourfold, and for the circulation of nutriment, which has to be transmitted to an enlarged periphery. Thus, then, the period of growth must be limited; thus a period must be reached when the germinal or living matter is no longer accumulated but is destroyed; thus the inherent cause of death has a structural existence. The apparent absence of inherent decay in many trees, in fish, in some reptiles, is alluded to by Mr. Spencer. He attributes it, as we have done above, to their exceedingly small expenditure; trees and plants generally exhibiting no personal expenditure at all, while fish and cold-blooded inert reptiles show very little indeed. Mr. Spencer also remarks that a strict inductive confirmation of the law of increase of expenditure and of growth must not be expected, since the bodies compared, *e. g.* fish and mammal, are not of the same density or chemical constitution entirely.

Another circumstance coöperates with the arrival of a period of balance between the expenditure and the accumulation (and depends on that period) to influence the natural termination of life. The condition of equilibrium between expenditure and nutrition, growth having ceased, might be maintained for an indefinite time were it not that precisely at this period a new form of expenditure, involving a very severe tax, sets in—namely, reproduction. It is when a stationary condition has been reached that we may anticipate from general laws new adjustments of the whole aggregate; while the changes of the more adaptable state of *growth* were in course, while concrete shape was being built up, discrete shapes were less likely so to be; and hence it is, when growth has ceased, or nearly so, that reproduction sets in.

The effect of this additional tax is to start the organism more rapidly down the incline toward the termination of the road of life, the length of time occupied in the downward run depending no doubt on the height of the hill which has been mounted, and on the friction, inclination, and additional acceleration, if any, of the descending body. An accident on the way may bring the imaginary rider over some precipice to the bottom of the course at once, and it is little likely that he will succeed in avoiding the many dangerous corners and pitfalls, which increase toward the end of the road, and finally expend the full amount of impulse in traversing the whole course.

Some organisms may continue to grow and produce young throughout their life; but the earlier reproduction is commenced, and the more rapidly it is carried on the sooner must the increase of the organism's bulk be stopped, and so waste and death ensue. Fish, mollusks, and trees are the extreme cases of this protracted period, which was explained as due to small personal expenditure. A test of the superabundance of the matter of life is seen in the reproduction of lost parts which Salamandroid Amphibians, and also Crustacea, exhibit during a considerable period of life, though it may be questioned if they possess it after their last moult, if they ever have a *last* moult. Salamanders and Crustacea belong to the same category as fish.

A second lot of organisms die at once upon the setting-in of reproduction by the rapid abstraction of the matter of life contained in the eggs and sperm. The Protozoa are typical of this group, for in them the formed matter of the organism is all that remains after reproduction, the entire mass of the germinal or living matter being used in reproduction. Hence there is no after-life, no down-hill run. It is the same with insects and with annual plants; so much of the living matter is taken that they have not power to recover the loss; even assimilation is stayed. The animals of the former group of small expenditure could recover their generative loss, not being called upon simultaneously in other directions.

A third group have the procreative subtraction coming on late. It checks growth and finally stops it, but it is so moderate as to leave the organism enough living matter to go on with, and life ceases only when the living matter is so far reduced as to be unable to keep the existing structures in adequate repair, or pro-

vide sufficient material for the necessary outlays of force. Such cases are presented by mammals, birds, and possibly some trees and shrubs.

It may not be out of place here briefly to state how death may be brought about by mechanical causes and external agencies in those organisms whose period of natural decay is very remote. There is of course the chance of accident, which is greater in a long life than a short one. But there are two examples of self-adjusting, or rather self-destroying tendency in the organism, to which allusion may be made. Trees, increasing in size as they grow older, expose a larger surface to the wind, while the roots can not penetrate beyond the limited soil; they thus are more liable to get blown over year by year. Again, increasing as they do, and being stationary in their position, they encroach on each other's area, and exhaust the limits of the soil and space by their united action, what is enough for one not being enough for five or six. In the case of animals, the same mechanical limit appears; where the food is diffused and taken in numerous but small mouthfuls (*i. e.* as in herbivorous and scavenger animals, not prædaceous animals), five small mouths will be more efficient in supporting five pounds of an animal than one big one. It is thus that the Maori fly is expelled by the smaller European house-fly. It is thus that large fish, large mollusks, large crustacea of species with diffuse food receive a limit to their life. The greater danger of all kinds involved in increased *surface* also tends to limit life in such organisms.

We have yet to ask how the exact or approximate period of natural death comes to differ in various species by heredity. We have seen how it is possible for a limit to be inherited, but how does the period so limited come to be an hereditary quantity characterizing species? How is it that it varies in animals which commence life and carry it on under very much the same conditions? The specific accidents, actions, wear and tear to which different species are severally subjected are not sufficient alone to account for the fixity of the period, though their influence is important. There is something additional, some more direct cause than these, and we must look for it in the quantitative limitation of the germinal matter itself, varying in species. If it were not so, how can we account for the fact that a cow and a sheep, which start from ova so exactly identical in form and size, composed probably of equal amounts of germinal matter or protoplasm, subject as they develop to the same external influences, living perhaps side by side in the same field, yet differ in their inherited term of life, which appears to be, as nearly as can be guessed, about twenty years for the larger and twelve for the smaller ruminant? We have seen that the expenditure increases during growth more rapidly than the bulk, more rapidly *à fortiori* than the accumulation of germinal matter, which we saw did not increase even as rapidly as the bulk. We may regard this germinal matter as a sort of stock-in-trade with which the losing game of increasing profit or accumulation, but more rapidly increasing expenditure, has to be played. "The rate at which a man's wealth accumulates is measured by the surplus of income over expenditure, and this, save in exceptionally favorable cases, is determined by the capital *with which he begins* business." In the transactions of an organism we trace the same three elements. "There is the expenditure required for the obtainment and digestion of food, there is the gross return in the shape of nutriment assimilated or fit for assimilation, and there is the difference between this gross return of nutriment and the nutriment that was used up in the labor of securing it." As long as this is in excess we have an increase of living matter and an increase of structure, and clearly the larger the capacity of the animal to take in food, etc., on commencing life (individual life), the larger and the *longer* will be the accumulation of germinal matter by the increase of bulk (profit). Say that each year the profit doubles, while the expenditure trebles, with a capital at starting of six units, while the expenditure is a third of the capital, and the profit cent. per cent., or equal to the capital at starting. In the *fourth* year, with these figures, we shall find that the capital commences to diminish, the figures representing its condition in the same units being respectively for the four years, 7, 13, 19, and 13, while it descends to 1 in the fifth year. Now, for comparison, suppose nine units as the initial capital, and the same relations of expenditure and profit, we shall find that the diminution does not commence till the *fifth* year, the growth thus continuing a year longer, the figures being 15, 24, 35, 36, and 33 respectively.

These two cases, in which the quantities are of course merely arbitrarily chosen for example, and in which the ratio of expenditure and profit as to increase is exaggerated, suffice to demonstrate the principle, which may be applied to organisms. It is because the calf at birth is a much larger animal than the lamb, having been carried longer by its parent, who from her greater size could of course give to

the offspring a greater proportionate amount of living matter to commence life with, that the cow lives longer than the sheep, or rather inherits a later natural limit to life. The quality of the germinal matter and many other conditions which have to be provided for in laying down such rules as this, by the expression "*cæteris paribus*," must always be taken into consideration.

We have, then, seen reason to think that the duration of life, after growth is completed or coming to an end, depends on the amount of living matter accumulated during growth, and that this depends on the size at birth, *cæteris paribus*. Thus it is that we trace the rationale of that connection between time of growth, time of gestation and potential longevity, which has been pointed out, though we can see no good reason why the number five or any other should express the ratio for the whole class of animals.

Is Lifting a Dangerous Exercise?

BY LEWIS G. JANES.

IN these days of "Lifting Cures" and "Health Lifts," the question of the *safety* of this method of exercise, especially in the cases of delicate invalids, women, and children, is one of the first which meets the advocates of the new system of Physical Culture. Very many, warned by personal experience or the advice of careful physicians, find an almost insuperable objection to this treatment in the fancied danger attending its use. This prejudice, however, results from a misconception of the method of exercise, or of the nature of the apparatus used in its application. The term "Lifting" is perhaps unfortunate in conveying to almost every novice an idea of a stooping motion of the body, and an abrupt strain upon the spine, *separating* the vertebræ, and producing injurious results by compression of the abdominal muscles, tending to hernia or rupture.

The effect actually produced by a well-directed lifting exercise, on a properly constructed apparatus, upon the muscles of the back and abdomen, and the spine, is directly opposite to that supposed. There is no stooping, or bending the spine, or body, during any portion of the action. The knees are flexed with the body erect, and straightened gradually and gently, the weight being supported by the hands. The spine is thus consolidated, the vertebræ compressed together, instead of separated, the muscles of the abdomen gently contracted, and the internal organs, throughout the entire movement, retain their natural positions, supported by the surrounding muscular walls and attachments. The movement is gentle, uniform, and slow, adapting the weight very gradually to the muscular tensions through the action of steel springs, without which no apparatus can be completely safe, or equally beneficial. The amount of weight is graduated to the condition of the patient.

Thus rupture or hernia, and all abdominal displacements, find here the most natural and sure remedy, while the gentle though powerful impulse given to the circulation throughout every organ of the body, internal as well as external, vital as well as muscular, forces the morbid accumulations into the natural channels of evacuation, clearing the system of waste matters, and carrying the nutriment, properly organized in the blood, to every portion of the frame. In this beautiful process of reconstruction, removing the old and effete, generating the new and healthy tissue, we find a sure promise of health, vigor, and renewed life.

The disciples of The Lifting Cure are not disappointed to detect popular errors concerning its method, occasional errors in its application resulting from ignorance of its laws or the use of imperfect and uncouth apparatus, and sometimes results laid at its door, which in no way belong there. The good old "Water-cure," so beneficial when judiciously used, has probably washed many people out of the world, through ignorant experimenting in its early history. The habit of eating is an old and good one, yet how many die every year, from the injudicious use of food. Quality and quantity here modify the result, as they do in the lifting exercise.

The public may expect to be flooded with all kinds of "lifting machines," claiming patronage on the merits of thunder stolen from The Lifting Cure. *I* expect to hear of injuries inflicted, and false prejudices aroused against our system,

resulting from these experiments, for which we are in no way accountable.

The Lifting Cure bases its results—

1. On its judicious application or use; and

2. On a scientifically constructed apparatus;

And claims that with the most perfect apparatus, comprising the spring and dead-weight combination, approved by the Butler System, *without the right method of application*, comparatively little benefit may be expected; while the most judicious use of a crude dead weight or lever machine, without springs, may result in injury instead of benefit, and can not produce that *vital invigoration* so essential to an increase of strength and health.

I had occasion not long since to address a communication to The Health Reformer, in correction of certain misstatements, accidental no doubt, of no less an advocate of Health Reform than Dr. R. T. Trall, concerning the apparatus and system which I advocate. This communication was, somewhat unfairly, I think, refused admission to that journal, only one or two points were noticed at all in reply, and those only admitting that partial truth which *may* be most useful in conveying a false idea.

In reply to the charge of "monopoly" against the Butler System, reiterated by Dr. Trall, it may be sufficient to say that we hold the written application of the Doctor for the right to introduce and control the aforesaid "monopoly" in the city of Philadelphia. We believe that we represent the feeling and motive of the patentee of the apparatus as well as our own, in the affirmation that we only desire to secure a fair presentation of our system on its merits, in the hands of competent persons, properly educated to use and apply it.

The following comprises the main points of the communication referred to:

"... Throwing out the experiments of Windship on rude and cumbrous apparatus, it is not unfair to claim for Dr. Butler and his co-laborers the honor of discovering, perfecting, and naming the new curative and strength-giving agent. All the apparatus now constructed and in use, under the name of Lifting Cure, Health-Lift, Combination Lift, etc., were invented subsequent to Dr. Butler's, and after careful investigation of the different styles of apparatus and the claims of their reputed inventors, we are unable to find in them any fundamental improvement on that patented and used by Dr. Butler.

"The object of this communication, however, is not so much to describe and advocate the Butler System, as to correct, authoritatively, some errors of fact and theory, into which a few people who have not thoroughly investigated the subject, seem to have fallen.

"1. The objection of the writer of the article in your August number to the Windship apparatus is just, but as a matter of fact, Dr. Windship has lifted on his yoke-lifting apparatus not *seventeen hundred* but *twenty-seven* hundred pounds. His greatest lift *by hand* is *twelve hundred and eight* pounds. But he can hardly claim to be the "strongest man in the world," as he has been out-lifted by both these methods. Prof. Butts of Ohio lifted *thirty-four* hundred pounds by yoke, and a Mr. Pierce of this city has raised more than three thousand pounds in the same manner; while Dr. Butler of Boston in the hand-lifting apparatus, in the presence of the writer, lifted *twelve hundred and twenty* pounds, and considers himself able, under favorable circumstances to raise thirteen hundred.

"2. Dr. Reilly of Chicago can hardly be said to have '*invented a machine.*' Dr. Reilly's specialty, the side-lift, was invented and used by Dr. Butler years before Dr. Reilly ever heard of it. I presume Dr. Reilly will base his claims as an inventor upon a patent received by him for an alleged improvement in lifting *handles.*

"3. The reason given in your article for declaring Dr. Butler's method of employing springs 'essentially erroneous,' derived I presume from a similar misapprehension of Dr. Smith in his pamphlet, will be seen to be itself erroneous, when the fact is known that the principal spring on which the weight is suspended, has the greatest tension at the commencement of the lifting motion, instead of the least, growing less continually as the weight is raised, thus perfectly fulfilling the law of graduation, and securing complete coöperation and safety in exercise. Beside this central spring, Dr. Butler's machine is rendered still further elastic by cartilages of rubber and platform springs having the *greatest elasticity* and *least* tension at the starting point, the value of which is sufficiently apparent to every scientific investigator. .....

"4. The Lifting Cure, while presenting primarily the all-important law of 'self-cure by self-action,' and embodying a method of culture whereby the *vital power* is developed, and applied to combat disease and increase strength, instead of producing an abnormal deformity of external muscular tissue, claims and uses all other hygienic agents as its aids. It avoids the practically fatal error of 'putting too many irons in the fire,' yet gives to thousands their first lessons in hygienic instruction. We preach the whole 'Gospel of Health'—nothing less."

The Two Sussex Lads.

I.

THERE lived two lads in Sussex, some forty years ago,
Dick* was the name of one of them, the other was named Joe;
Both were the sons of farmers, and both had prospects fair,
And of schooling both, for country lads, had got a bounteous share.

II.

To gather knowledge of all kinds, Dick ever was intent,
And in reading good and worthy books his leisure hours were spent;
Whene'er he wandered through the fields, he ever tried to find
Some lesson good in all he saw with which to store his mind.

III.

Joe never read a book at all unless some silly tale—
Give Joe his paper and his pipe and pot of home-brewed ale,
And he would sit and sip, and smoke and read, until the drink
Rose to his brain and drowned the power to understand or think.

IV.

Dick went away to London town his fortune there to try;
In study and in anxious toil his time of youth went by.
Whate'er he thought was right to do, he did with all his might;
He climbed by Duty's rugged path to Honor's topmost height.

V.

Joe's father died, and so he got the farm, but soon it passed
Into another's hands, for Joe lived very hard and fast.
The wealth his father hoarded up, and toiled so hard to win,
Joe spent in drunken revelry and every kindred sin.

VI.

Joe died upon a lair of straw, in a cellar foul and dim,
No kind voice soothed his dying hour, for no one cared for him;
And when his wasted form was laid within the pauper's ground,
No tear bedewed his nameless grave, no mourners stood around.

VII.

Dick died, and kind hands closed his eyes; and round his coffin stood
Men from all nations far and near, the noble and the good.
When o'er the mountains and the seas, the mournful tidings swept
That he was dead, humanity bowed down its head and wept.

VIII.

Of these two lads, the one who spent his youth o'er pipe and pot
Died, as the drunkard ever dies, uncared for and forgot:
While Richard, by untiring zeal and steady toil, became
The man than whom the world as yet can boast no loftier name.

* Richard Cobden.

Height and Weight.

WITHIN the last few years public attention has been drawn to the question of what individuals weigh, by the facilities afforded for weighing by the construction of weighing-chairs. These chairs are not only to be seen at the Crystal Palace, in London, where diminutive boys tout for custom, offering to tell you your "correct weight, for only a penny, sir," but they are often seen at the stations of the Metropolitan Railway and many other places in the country. The practice, therefore, of getting weighed is obviously on the increase, and we want to utilize the knowledge thus gained by showing how it may be turned to most advantage. It will be easily seen that to know the weight of a person without reference to some other standard, such as height, would be of but little advantage. But if by taking the height of a person we can say what he ought to weigh, then we have a means of ascertaining what persons ought, or ought not to weigh. The difficulty has been to determine what a man of a certain height really ought to weigh. If this can be determined, then we can say whether a man of a certain height exceeds or falls short of the average weight of men of his stature.

One of the earliest efforts made to obtain any thing like a fixed relation between height and weight was that of Dr. Boyd, who weighed a number of inmates at St. Marylebone Workhouse. He took the height and weight of one hundred and eight persons laboring under consumption, and found they measured five feet and seven inches, and weighed ninety pounds. He then measured and weighed one hundred and forty-one paupers who were not consumptive, and found that their average height was five feet and three inches, and that they weighed one hundred and thirty-four pounds. This subject attracted the attention of the late Dr. John Hutchinson and he determined to take the height and weight of all classes of persons in the community. In this way he collected the height and weight of upwards of five thousand persons. This list, however, included persons who exhibited themselves as giants and dwarfs, and other exceptional cases. He therefore reduced his instances to two thousand six hundred and fifty persons, all of whom were men in the vigor and prime of life, and included sailors, firemen, policemen, soldiers, cricketers, draymen, gentlemen, paupers, and pugilists. This group of cases was intended to make one class as a set off against another, so as to get a fair average. The following is the result of Dr. Hutchinson's observations:

Height.	*Weight.*
5 feet 1 inch	120 pounds.
5 feet 2 inches	126 pounds.
5 feet 3 inches	133 pounds.
5 feet 4 inches	139 pounds.
5 feet 5 inches	142 pounds.
5 feet 6 inches	145 pounds.
5 feet 7 inches	148 pounds.
5 feet 8 inches	155 pounds.
5 feet 9 inches	162 pounds.
5 feet 10 inches	169 pounds.
5 feet 11 inches	174 pounds.
6 feet	178 pounds.

Of course the result of these investigation of Dr. Hutchinson can only be considered approximative, and he himself thought that larger number of observations would lead to more perfect law. The fact is, his observation are quite sufficient to establish all that we nee and goes to show that among a certain set healthy men his estimate of weight and heig may be regarded as an approach to a health standard. It is only where considerable depar ures from the estimates given by Dr. Hutchin son take place, that any particular case deman attention. If this table is examined, it will seen that the increase in weight for every inch height is a little more than five pounds. fact, allowing for any error in observation, may say that Dr. Hutchinson's table is reduc ble to the law that for every inch of statu beyond five feet and one inch, or sixty-one inch a healthy man increases five pounds for ever inch in height. If this deduction be accepte we may very much simplify Dr. Hutchinson table, and say that as a rule, a man's weight i ereases at the rate of five pounds for every inc of height, and this rule holds good for all pra tical purposes. Starting then with a person fi feet in height, who, according to the assume law, should weigh one hundred and fifte pounds, we obtain the following results:

Height.	*Weight.*
5 feet	115 pounds.
5 feet 1 inch	120 pounds.
5 feet 2 inches	125 pounds.

Height.	*Weight.*
5 feet 3 inches	130 pounds.
5 feet 4 inches	135 pounds.
5 feet 5 inches	140 pounds.
5 feet 6 inches	145 pounds.
5 feet 7 inches	150 pounds.
5 feet 8 inches	155 pounds.
5 feet 9 inches	160 pounds.
5 feet 10 inches	165 pounds.
5 feet 11 inches	170 pounds.
6 feet	175 pounds.
6 feet 1 inch	180 pounds.
6 feet 2 inches	185 pounds.
6 feet 3 inches	190 pounds.
6 feet 4 inches	195 pounds.

Although this law is approximately good for a certain number of cases, even above and below this table, it is practically found, and especially in the case of children and growing persons, that there is a wide difference of weight at heights below five feet.

Attention may he also drawn here to the fact that there will constantly occur in the community instances of persons where either the muscular or bony systems are excessively developed, and who consequently weigh more or less than their height. Dr. T. K. Chambers, in his admirable essay on Corpulence, published in 1859, calls especial attention to the researches of Mr. Brent on the assumed weights of the statues of antiquity. In order to get at this, Mr. Brent immersed in water accurate copies of these statues, and by ascertaining the quantity of water they displaced he calculated their weights. Dr. Chambers has taken the pains to reduce the absolute weights of these statues to assumed heights, and thus compared the heights and weights of these statues of antiquity with Dr. Hutchinson's modern man. Without giving the whole of the heights and weights, we present the series at the assumed height of six feet. Thus:

	Height.	*Weight.*
Bronze Tumbler	5 feet	158 pounds.
Hutchinson's Man	5 feet	178 pounds.
Dying Gladiator	5 feet	196 pounds.
Theseus, Pritish Mus.	5 feet	210 pounds.
Hercules, British Mus.	5 feet	234 pounds.
Farnese Hercules	5 feet	259 pounds.

On this tahle Dr. Chambers remarks: "Of the statues here selected, the Bronze Tumhler may he taken as the type of extreme lightness and activity, the Dying Gladiator of robust strength; in Theseus and the smaller Hercules the sculptor's ideas of a hero where the bodily strength must be equal to that of any possible man. The Farnese Hercules exhibits a development of muscle greater than is ever known to exist in the human species."

Dr. Chambers also gives the height and weight of certain celebrated prize-fighters, the result of Mr. Brent's ohservations, which makes it very ohvious that in certain cases the great weight depends on the muscular and osseous development.

	Height.	*Weight.*
Perrins	6 feet 2 inches	238 pounds.
Caunt	6 feet 2 inches	203 pounds.
Spring	5 feet 11 inches	182 pounds.
Jackson	5 feet 11 inches	196 pounds.
Bendigo	5 feet 9 inches	168 pounds.
Johnson	5 feet 8 inches	187 pounds.
Slack	5 feet 8 inches	192 pounds.
Mendoza	5 feet 7 inches	172 pounds.

The conclusion we come to with regard to these weighings and measurings is that all ordinary departures from the average height and weight of the hody, deduced from Dr. Hutchinson's tahles are due either to an increase or decrease of the fatty matter or of the adipose tissue in the body. Thus, taking the composition of a human body weighing one hundred and fifty-four pounds, and measuring five feet and eight inches, it will he found that it contains twelve pounds of fat. It is then mainly due to the diminution or the increase of this fatty substance that human beings weigh more or less than the standard weights given in the ahove table. It will be therefore here worth while to inquire what is the use of fat in the system, and what indications are afforded by the height and weight of the human body for caution in diet and regimen.

The exact way in which fat is produced in the tissue of plants and animals is not known, but there is evidence to show that it is found very generally in the tissues of plants, especially in the seeds. Oil, when used for commercial purposes, is mostly obtained from the seeds of plants, as seen in castor oil, rape oil, linseed oil, cocoa-nut oil, palm oil, and a hundred others. As it is found in the seeds of plants, so it is in the eggs of animals. The embryo of all animals is developed in contact with oil, of which we have a familiar instance in the yolk of the egg of birds. It appears also that the muscular and other tissues grow under the fostering influence of the adipose tissue.

Besides this primary influence on the growth of the body, fat subserves many other purposes.

In the first place, it seems a reserve of material for producing muscular force when needed. Animals grow fat in summer, but as the supply of this material becomes scanty in winter they lose their fat and get thin. Man himself gets fat in summer and grows thin in winter from the demand on this store for heating purposes. Hybernating animals go to their winter sleep sleek and fat, but wake up in the spring lean and meager, from the loss of fat in maintaining the animal heat necessary for life. Fat is thus seen to be an essential of animal life. Where there is too little deposited for the purposes of life, then serious disease has already commenced or may set in; while on the other hand a redundancy of this deposit may seriously interfere with the functions necessary to life.

It is from this point of view that the value practically of a knowledge of the height and weight of individuals becomes the more apparent. When the weight of a person is much below his height, then it may be suspected that some disease has set in, which may go on to the destruction of life. One of the earliest symptoms of consumption, the most fatal disease of civilized inhabitants of the world, is a tendency to loss of weight. Long before any symptoms are present of tuberculous deposits in the lungs, this loss of weight is observable in persons afflicted with consumption. At this stage a large amount of evidence renders it probable that the fatal advance of this disease may be prevented.

On the other hand, this knowledge of the true relations of height and weight presents us with individuals who weigh a great deal more than the standard presented by the above tables. In certain individuals, and, in fact, in particular families, there is a tendency to develop adipose tissue. However free from fat may be the food, what little it contains is arrested in the tissues of these individuals, and they become "fat;" that is, they weigh more than their height. The consequences of this fatness are very various. The fat may be so deposited over the system as not to be necessary to the functions of life; but every one can understand that, in the case of two men of equal stature, say five feet and eight inches, one having to carry one hundred and fifty-four pounds and the other one hundred and sixty-eight, the latter will be at a disadvantage. This arises from two causes. The heavier man carries, in the first place, a greater weight, and in the second place, his heart has to project into the tissues of the body a larger amount of blood in order to keep him alive. For every pound a man weighs above his height, his system is at a disadvantage, and he suffers in various ways. When fat is equally distributed about the body then no immediate disadvantage is felt. But when fat has accumulated in particular parts of the body, interfering with the functions of particular organs, then its evil influences become speedily apparent. The most accurate account of the effects of the accumulation of fat in the viscera of the chest, will be found in a pamphlet by Mr. Banting, who, though not at all what we should call a fat man, nevertheless, so suffered from fat in the chest that he could not walk forward down stairs, or stoop to buckle his shoe. There is no doubt that in his case there was a necessity for immediate relief, and he obtained it by abstaining from articles of food which supply fat to the system.

When persons weigh much above their height, it is obviously a matter of importance that they should as much as possible relieve the tax put upon their muscular and circulating system by diminishing their weight. Fortunately, this is not a very difficult thing to do, but it should be done with caution. "To Bant" with success requires caution. The immediate withdrawal of all fatty food, and the substances such as starch and sugar, which produce fat, is frequently attended with dangerous results. Mr. Banting's diet, although so beneficial in his case, was not altogether a judicious one, and we have no doubt that many of our "stout" friends have found an early grave by their determination to reduce themselves to the standard of weight for their height. With regard to stout people, or those who weigh more than their height, it should be recollected that if they have suffered no inconvenience from their weight, it is better to leave well alone. There are few people living in the scientific circles of any city who are not well acquainted with the portly forms and genial faces of well-known men from seventy to eighty years of age. It would be folly on the part of the men who have thus achieved the normal age of three-score and ten years to commence any system of artificial diet, when their natural instincts have guided them in spite of their weight, to their present green old age.

When studied from a judicious point of view, there is no doubt that an estimate of the height and weight of an individual ought to enter into an estimate of the possible chances of life. In medical practice it may become the deciding point of the treatment of disease; while in those estimates which insurance offices are obliged to make of the prospective value of life, it is of the utmost importance. E. L.

STUDIES IN HYGIENE.

A Society for Promoting the Spread of Hygienic Knowledge.—A few friends to Health Reform, in New Haven, Conn., feeling that they could do and get good, proposed meeting together from time to time at one another's houses, to talk over, in an informal way, matters of vital importance to all, though neglected by most—Health, and all that pertains thereto.

From a weak and feeble beginning, they have found their numbers increasing so rapidly, that it was thought best to organize into a society, which was accordingly done, and President, Vice-President, Secretary, Reader, and a Committee on Topics for Discussion and General Business, were chosen.

It is deemed best not to make our meetings public just at present, but we presume the rapid increase in persons attending them will demand this in a little time; for we find that with a very little missionary work, our numbers are easily and rapidly augmented. They are quite informal, at present; we meet but once a fortnight—Saturday evenings—dispatching the business between 7½ and 9, then tarrying a little for social chat, to make our acquaintances more general, and our friendships stronger. At each meeting the subject for the next is announced, and a person appointed to read an essay or talk upon the subject sufficiently long to break the ice and make it suggestive to others. Then the President gently draws from each one present some remarks by way of experience or observation. Generally all have something to say, and are willing to say it, for each one is expected to think on the subject and to come prepared. Some bring books with articles on the subject in hand, which are put into the hands of our excellent Reader, so that all have the benefit of what is read. Need I say that, although we are but beginners and do things crudely, our meetings are very interesting and profitable?

At our next meeting, one of our leading physicians of New Haven, is to read an original paper before the Society on the "Relations between States of the Mind with States of the Body, and the Dependence of each upon each."

The subjects to be discussed may be numbered by legion. There is no danger of our dying out. Our only drawback is, too little time. Of course, our Society is honored by the presence of ladies. We could not get along without them. They take a more active part than men, and why should they not; this subject appeals to them far more strongly than to any others. Already a Health Library, and Health Tracts are subjects for consideration. One evening, one of themselves suggested that it would be well if all would provide themselves with Health magazines, and all subscribed at once for The Herald of Health.

Who can predict the good results of these meetings, or to what they may not lead in time! Certainly the success of this movement will lead to similar societies being formed in other communities. W.

[Note.—We look upon this movement as a very wise one. Are there not other towns and cities where the people can form similar societies for promoting the spread of a knowledge of health, and the best ways of living? We should be glad to chronicle the doings of such societies everywhere.—Editor.]

Abuses of Dress.—The tight waists, the low necks to dresses, and the high-heeled shoes are most flagrant abuses, and ought not to be longer tolerated. We shall not quarrel with the jaunty little hats of the ladies; for they are indeed pretty, and no harm results from them, as of all parts of the body the head needs the least clothing. But, to pass to the other extremity, we have to say that the detestable high heels to ladies' boots and shoes, running as they do down almost to a point, are spoiling the gait and ruining the ankle-joints of children and young misses. We are careful to order our shoemakers to remove such heels from shoes before permitting them to be brought into our dwelling. Heels of moderate height and good breadth are of great service in elevating the feet so as to avoid direct contact with moist earth, and they also give support and afford firmness to the step. Why should Fashion push good devices to absurd extremes? We must aid in dethroning the tyrant when her decrees lead to the physical or moral injury of the race. The present fashion of leaving the neck and the upper part of the chest bare, is fraught with evil consequences. It would be less objectionable in countries uniformly warm; but that our daughters, here in this frigid and changeable climate, should constantly expose to chilling

winds a vital part of the body, is one of the evils of fashion which should be discountenanced by every mother, and father, and brother.—*Nichol's Journal of Chemistry.*

Regarding shoes we will add that the common practice of buying those already made is very bad in its effects on feet. Shoes should always be made for each foot on a last made for them. Let any one who is used to wearing shop shoes wear a pair made on an anatomical last, and they will for the first time enjoy the luxury of happy feet! We say happy, for the feet are quite as susceptible of happiness as any part of the body.

THE COATING OF THE TONGUE.—In health the tongue has hardly a discernible lining; disease quickly gives it one. In inflammation of the respiratory textures at the commencement of fevers, in disorders of large portions of the abdominal mucous tract, the epithelium accumulates, and the tongue has a loaded, whitish appearance. The coat is apt to be yellowish in disturbances of the liver, and of a brown or very dark hue when the blood is contaminated. But we must be very sure, in drawing our inferences, that the abnormal aspect be not due to the food partaken of, or to medicine. Its color is also modified by the character of the occupation. Thus, as Chambers asserts, there is a curious, smooth orange-tinted coating on the tongue of tea-tasters. A local cause sometimes gives rise to a thick opaque coat. For instance, decayed teeth may produce a yellow sheathing on one side. Affections of the fauces also occasion a deep yellow hue. Again, some persons, wake up every morning with their tongues covered at the back with a heavy coating, which wears off during the day.—*Dr. J. M. DaCosta.*

PHYSICAL CAPITAL FOR CHILDREN.—Every hour that a child sleeps is just so much investment of physical capital for years to come. Every hour after dark that a child is awake is so much capital withdrawn. Every hour that a child lives a quiet, tranquil, joyous life of such sort as kittens live on hearths, squirrels in sunshine, is just so much investment in strength and steadiness and growth of the nervous system. Every hour that a child lives a life of excited brain-working, either in a school-room or in a ball-room, is just so much taken away from the reserved force which enables nerves to triumph through the sorrows, through the labors, through the diseases of later life. Every mouthful of wholesome food that a child eats, at reasonable hours, may be said to tell on every moment of his whole life, no matter how long it may be. Victor Hugo, the benevolent exile, has found out that to be well fed once in seven days for one meal has been enough to transform the apparent health of all the poor children in Guernsey. Who shall say that to take once in seven days, or even once in thirty days, an unwholesome supper of chicken salad and champagne may not leave as lasting effects on the constitution of a child?—*Independent.*

Not only is sleep necessary for children, but they should retire early. Sleep taken early in the night is worth more than that taken late in the morning, besides early to bed is apt to be followed by early to rise, and this habit once formed is of value all throughlife.

NEAR-SIGHTEDNESS.—At least in some classes of society, the possibility of blindness, at or near middle life, from changes incident to excessive near-sightedness, as well as the predisposition to transmit the same infirmities and liabilities, ought to be taken into account in forming matrimonial alliances, like any other impending disability from incurable ailment. The fact of its being frequently inherited once understood, parents should watch for any early manifestations of its presence in their children, and take measures to prevent its progressive increase. Teachers should impose upon near-sighted eyes as little as possible of studies requiring close application, even though at the time the child makes no complaint. It is questionable if our system of education, augmenting as it does the frequency and degree of near-sightedness, is an advance in civilization. It would be better to go back at once to the oral teachings of the schools of Athens, than to go on creating our favorite type of educated men and women, at the expense of their own and their children's eyesight.—*Dr. H. W. Williams*

MAN'S FEET *vs.* BEAR'S FEET.—Man's foot is called a plantigrade foot; that is, a foot which has the whole sole flat upon the earth. There is one other beast—and a very respectable one in his way, which has also a plantigrade foot, and that is the bear; but the bear's foot and method of using it differ from man's, and his method of using it, in this respect—that whereas as we walk we strike first the heel, and then roll forward upon the toe of each foot alternately, the bear lifts the whole of the foot together and puts it down flat, in precisely the same way that a negro clog-dancer does. The bear has not the power to put down his hee

rst and then roll forward and give a spring as 'e do, hut it puts it down flat, as any one of us 'ould if we had a wooden leg. So that there i a difference hoth in the structure and method f using this very useful member.—*Professor Vilder.*

Excessive Longevity.—Here's the old ıan again, 143 years old this time, and living ı the North Carolina mountains. The Tarboro 'arolinian says that at the time of Braddock's efeat he was twenty years old, and had a wife nd three children. He has always been in ıoderate circumstances; lived upon a coarse egetahle diet; never drank any liquid hut pring water, and hids fair to live many years ɔnger. He has survived seven wives, having ost his last one ahout sixty years ago, he now ıegins to feel quite lonely, and wishes to marry gain.—*Ex.*

The ahove story is going the rounds of the ıapers and may be true, hut if so it is a case of xcessive longevity, of which there are few cases ɔn record. A majority of the race die too soon ɔerhaps one in a million of all horn lives too ong. The subject of excessive longevity will ɔe carefully treated in the papers on this subect now being published in The Herald of Health.

Precocious Children.—Experience ıas demonstrated that of any number of children of equal intellectual power, those who receive no particular care in childhood, and who lo not learn to read and write until the constitution hegins to be consolidated, hut who enjoy the henefit of a good physical education, very soon surpass in their studies those who commence earlier, and read numerous hooks when very young. The mind ought never to be cultivated at the expense of the body; and physical education ought not to precede that of the intellect, and then proceed simultaneously with it, without cultivating one faculty to the neglect of others; for health is the hase, and instruction the ornament of education.—*Spurzheim.*

A precocious child should not he taught to read hefore it is eight years old, and greater care should be taken to develop its hody than brain. There are thousands of children horn with a tendency to excessive development of the nervous system, who, if they could have physical development instead of mental during the years of growth, would make our brightest and best citizens. Stimulate their hrains in youth, and they break down and die.

Extinct Families.—What has become of the children of all the extinct royal houses? If we suppose two children to every man, we get a geometrical progression in the number of their descendants. Taking the Carlovingian dynasty, for example, the last two sons found an asylum in Germany. Each of these may have heen the father of thirty generations; and there might he now, had not wars and famine interposed, upward of a thousand millions—as any one may calculate—of lineal descendants of the last Carlovingian king. In other words, under peaceful conditions, it would take a single pair only thirty-one generations, or less than a thousand years, to people the whole world as it is now peopled. Of course all these calculations are upset by war, famine, pestilence, and ignorance of hygiene. Still, with all deductions, is it not ohvious that the blood of any given man must, after many generations, he flowing in the veins of millions of people?—*Harper's Weekly.*

A hetter knowledge of the laws of marriage, and of hygiene would save many a family from becoming extinct. It must he a sad thought to look forward to the time when not a drop of the hlood of any person shall course in any human vein, still Heaven often decrees it. Would it not be well for people to think of this matter more? To found a family that shall he a power for good on the earth, ought to be a more frequent desire. Americans think too little of the future. They care too little for children, and too many families are childless from choice. When age creeps on them, they will suffer sorrow and loneliness. A reasonable number of children is a desideratum in any well-ordered family.

Making Money.—A medical journal says, "Making money is in America the 'chief end of man,' as the Westminster catechism has it. Plenty of advisers are ready with their wise saws how it can be accomplished. We are one of them, and offer a saw quite as true and less trite than any of them, and it is this, Keep healthy. Living in the midst of a commercial mart, and in the thick of the desperate conflict for wealth, we may have seen many a hero in the fight lose all for want of health; lose it, perhaps, just at the moment when a month or two of work would have made a fortune."

Most of the successful men are healthy men, or were so at the time the foundation of their fortune was laid. To get rich requires health, and to keep and enjoy a fortune it is even more important.

RECIPES FOR WHOLESOME COOKING.

MOLDED FARINACEA.

No. 1. Arrowroot.—Take four ounces of arrowroot; one quart of new milk; one small salt-spoonful of salt, and four ounces of white sugar. Set a pint and a half of milk on the fire, adding the sugar and salt: when boiling, put in the arrowroot, previously mixed till perfectly smooth, with half a pint of cold milk, and stir constantly till it has boiled three minutes; then add ten drops of almond-flavor, and pour it into a mold previously dipped in cold water.

No. 2. Barley.—Six ounces of Scotch barley; three pints and a half of water, and six ounces of sugar. Steep the barley twelve hours; drain it, and pour the water, boiling, upon it; stew quickly in the oven in an earthenware jar, covered, till perfectly soft, and all the water is absorbed; when about half enough, add the sugar, and six drops of the essence of lemon; pour it into a mold, and let it stand to set. When boiled quickly, the above quantity requies two hours and a half, and is a much better color than when it is longer in preparation.

No. 3. Lentils.—Take three ounces of lentil flour; four ounces of sugar; six drops of almond-flavor, and one pint of water. Mix the flour with a little of the cold water; set the remainder on the fire, and when boiling, pour a little to the flour, and mix well; put it into the pan with the sugar, and stir the whole quickly over the fire fifteen minutes, adding the almond-flavor; pour it into a mold previously dipped in cold water; when cold, serve with preserved or stewed fruit.

No. 4. Molded Rice.—Take eight ounces of rice and one and a half pints of milk. Wash, and swell the rice in the milk, till the whole of the milk is absorbed and the rice thoroughly softened; then pressing it into a mold or basin for half an hour, with a weight upon it, serve it, turned out, with preserved or stewed fruit.

No. 5. Ground Rice.—Take six ounces of ground rice; two ounces of loaf sugar; six drops of lemon-flavor, or three drops of almond-flavor, and one quart of water. Steep the rice in a little of the water, while the rest of the water is boiling; then add it to the boiling water with the sugar; boil twenty minutes, stirring it all the time; add the flavor; dip the mold into cold water; pour in the rice, and let it stand till cold, serving with stewed or preserved fruit.

No. 6. Molded Sago.—Take five table-spoonfuls of sago; one-fourth pound of sugar, and eight drops of the essence of lemon. Steep the sago a quarter of an hour in half a pint of cold water. Pour on it one and a half pints of boiling water, and boil the whole in an earthen vessel in the oven about one hour, occasionally stirring it. Pour into molds or basins, and let it stand. When cold, turn it out, and serve with stewed fruit.

No. 7. Sago with Fruit.—Take four ounces of sago; half a pint of raspberry and red currant juice (strained), and six ounces of loaf sugar. Wash the sago and steep it one hour in cold water; strain off the water; add the juice and boil gently a short time, stirring it occasionally, and adding the sugar; when clear, pour it into a mold; let it stand twelve hours, and pour it on a flat dish.

No. 8. Semolina.—Five ounces of semolina, and one quart of milk. Pick and wash the semolina; mix it with a little of the cold milk; set the remainder of the milk on the fire, and, when boiling, put in the semoliua; let it boil about twenty minutes; then pour it into a mold, previously dipped in cold water; let it remain twelve hours; turn it out of the mold, and serve with canned peaches.

No. 9. Tapioca.—Take three ounces of tapioca; two ounces of ground rice; one pint and a half of milk, and eight drops of almond-flavor. Wash the tapioca in water two or three times; mix with the ground rice; add half a pint of cold milk, and let it remain thirty minutes; then add the remainder of the milk and simmer it half an hour, stirring well the whole time add the almond-flavor, and pour it into a mold previously dipped in cold water.

No. 10. Cracked Wheat.—For a quart of the cracked grain have two quarts of water boiling in a smooth iron pot over a quick fire; stir in the wheat slowly; boil fast and stir constantly for the first half hour of cooking, or until it begins to thicken and "pop up;" then lift from the *quick* fire and place the pot where the wheat will cook slowly for an hour longer. Keep it covered closely, stir now and then, and be careful not to let it burn at the bottom.

Wheat cooked thus is much sweeter and richer than when left to soak and simmer for hours, as many think necessary. White wheat cooks the easiest. When ready to dish out, have your molds moistened with cold water, cover lightly, and set in a cool place. A handful of raisins added with the wheat is nice. Eat warm or cold, with milk and sugar.—*Lizzie R. Bronson.*

LEMON PIE AND GEMS.

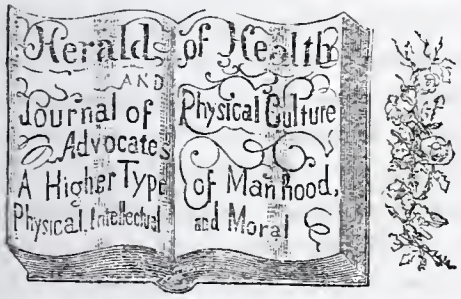
Lemon Pie.—Take one lemon, grated and squeezed; one cup vinegar; a table-spoonful of corn starch dissolved in cold water; then pour a cup of boiling water over it.

Crust.—One part white flour, one part graham flour, one part corn-meal. Shorten it with butter or condensed milk, reduced one-third.

The above recipe for lemon pie is used in our Institution, and a majority of our guests will testify as to the excellence of lemon pie made in this way.

To Make Gems.—See that your oven is hot enough to bake potatoes, and that your small oblong iron or tin pans are hot, and greased with olive oil. Now mix wheat-meal or graham flour with cold water or milk and water if preferred, to the consistency of corn bread batter with the greatest possible rapidity, and put instantly into the pans, and bake twenty-five or thirty minutes. Success depends upon the speed of the whole process. Gems may be eaten while warm, but not while hot enough to melt butter.—*Lizzie R. Bronson.*

EDITORIAL DEPARTMENT.



NEW YORK, MARCH, 1871.

WATER.

"To the days of the aged it addeth length;
To the might of the strong it addeth strength;
It freshens the heart, it brightens the sight;
'Tis like quaffing a goblet of morning light."

TOPICS OF THE MONTH.

BY M. L. HOLBROOK, M. D., EDITOR.

The Energy of Old Men. — Von Moltke.—The word Energy means the power to do work. One man, for instance, is sufficiently strong to do each day an amount of labor equal to lifting a certain number of tons of matter ten feet high, another half as many, and another twice as many tons. This power, whatever it is known among physiologists by the name of energy. We all, of necessity, live in a world of work. We must labor if we would eat, and we must work if we would live. We can not escape this condition of things, if we would, and it is very doubtful if we should care to have it otherwise if we could. We are usually proud of the possession of great power to do work, not necessarily physical work, but work of some sort, and the man who can do twice as much as his fellows is looked up to and admired, courted, often worshiped. It is a royal thing to possess great strength, to be filled with power, to bubble over with surplus energy, so that every department of our being can be kept in full activity, during a reasonable number of hours each day. Children abound in energy. In proportion to their size, they possess more than grown people, but it can not with propriety be turned into work, as it is required to build up the body into full proportions. Hard work is not good for children; it dwarfs and stunts the body and brain. It kills the goose that lays the golden egg. As the body and mind mature, work may be increased, and usually from the age of thirty to fifty, or sixty, the amount of energy which can be spared for hard work is, in healthy persons, very considerable. It is not often that great power is retained much after fifty or sixty. Indeed, it is more likely that, at this age, the man or woman, if alive, is feeble, infirm, and tottering on the verge of the grave. A remarkable exception to this, is seen in Count Von Moltke, who is now the great military genius of Europe, if not of the world. This man is now over seventy years old; and the vigorous campaign which he has led, must have subjected him to greater physical and mental exertion than almost any living man of his age, or perhaps any other age, has ever had to endure. We know little of his life or history, but there can be no doubt of this, that he has not rudely wasted his strength, in any part of his life. It is altogether likely that his life has been one favorable to growth and development, both mental and physical, and that he has been able to lay up a reserve force of vital power with which to do his work now. Indeed, we know that the great General had not distinguished himself before sixty, or before tho

Austrian and Prussian war of very recent date. It is a settled fact in physiology, that those who spend their vitality in hard work or dissipation in early life can not have it in old age. "You can not eat your cake and keep it too," said the mother to her boy. You can not be powerful at seventy if you are wasteful at thirty, is an equally trite saying.

It is a grand thing to be powerful when old. Those days when the grasshopper is a burden are hateful days, and it is wise to shun them. It is thought an absolute necessity for every young man to lay up something for a rainy day. To be old, and poor, and homeless is a hard lot, but is it not equally hard to be old and infirm, and rickety, and toothless, and decrepit? Would it not be wise for all to save some strength, as well as money, for old age? Then might old men, and old women, our grandfathers, and our grandmothers, be beautiful and sweet and blessed, instead of a burden to themselves and a care to others, as they often, though we are happy to say not always, are. We are privileged to know at least one aged couple whose lives are sweet and wholesome, a delight to themselves and others.

Might not the number of Von Moltkes, of strong and happy old men and women, be greatly increased, by a little more wisdom and thoughtfulness in early life?

Railroad Horrors—A New Faculty Needed.—It is seldom that the country is more shocked than at the terrible accident that occurred on the Hudson River Railroad at New Hamburgh, near midnight, February 6. A Pacific express train dashing on at the rate of forty miles an hour runs on to an oil train, which, by accident, has been thrown on to the track, when in an instant several sleeping cars filled with passengers are set on fire, and the engine and a considerable part of the train are plunged into the river, and over twenty persons in good health are hurried into eternity. It is useless to discuss the question of blame in a case like this. To lock the door after a horse has been stolen may be well, but it does not bring back the horse; to find fault with the Railroad Company after it has sent a score of our friends into eternity is natural, but it does not bring them to life again.

And this brings us to a question which may have more practical importance than would at first sight appear. It hints at a faculty in the human mind not yet fully fledged, but growing to meet a demand of the time. We mean the faculty or power of prescience. Could a person about to take a journey know beforehand which train to take, he could always avoid accidents. Now, is such a thing possible? We do not say it is, but we do say that there are indications of such a faculty or power. There are a number of persons who intended to take the fatal train, but from some cause which they can not explain, did not. There were on this train a number of persons who went on board with the feeling that something terrible was to happen. The conductor of one of the sleeping-cars was one of these. Premonitions of this kind are not uncommon, and some of them are so remarkable as to leave no room for doubt but that they are genuine cases of foresight, rather than the vagaries of a diseased brain. We believe there is a great need of some such faculty in the mind, and that there are indications that one is slowly but gradually developing to meet this want. How else are people to avoid those horrible calamities which scatter havoc and destruction in their path? We would not foster the spirit of blind superstitious fear but only a proper heeding of such premonitions of coming events as are reasonable and proper.

HAPPINESS—WHAT IT IS, AND WHAT IT IS NOT.—Plato declared happiness to consist in the contemplation of abstract ideas of beauty and excellence. This may be a good definition of the word, as understood by men with such minds as this great Philosopher had, but it would apply to but few persons. Indeed, nine-tenths of the race would be miserable in any such pursuit, or mental occupation. A young lady defined happiness to consist in the possession of a true and beautiful lover, and no doubt she spoke the truth so far as she could speak it, but her grandmother at seventy would give quite another definition. To her it would consist in the contemplation of a well-spent life, and the hope of joy in the world to come. The truth is, each individual will define happiness in his own way. One man finds it in the pursuit of wealth, another in the pursuit of culture, another in the possession of religion. The philanthropist finds it in doing good. The hungry man seeks it in food, the cold man in warmth and shelter, the man of poverty seeks it in wealth. Probably, however, perfect health is the fountain source of more happiness than any other. With a good digestion, a tough skin and a sound mind in a splendid body, who could not be happy? There are probably more happy men and women in the world than unhappy ones, more joy than sorrow.

Many people think they are unhappy when they are not. Real unhappiness can not exist without a cause. It is a shame and a disgrace to complain of being unhappy when we are only lazy and unoccupied. Such people are like the fox who had a deep wound somewhere on his body, but he could not tell where. Let them be ashamed to own it, unless they can show good reason.

Happiness consists in loving and being loved. There is enough to love in the world, but to be loved we must deserve it. We may be admired for our beauty or talent, courted for our influence or wealth, but we can only be loved as we are good. Therefore, happiness consists in goodness. The sacred writer had it right when he said, the Kingdom of Heaven is within you.

WASTE OF LIFE.—Some striking statistics of the fatality of scarlet fever are given in The British Medical Journal:

"During the twenty-one years, from 1848 to 1868, inclusive, there were registered in England and Wales, 415,982 deaths from scarlet fever and its allied disease, diptheria. To bring this number down to the present time, exact data are not yet forthcoming, but it may be estimated that at least forty thousand deaths have occurred throughout England during the last year. In the six months ending June last, 13,900 deaths were returned as resulting from scarlet fever and diptheria—a number, however, which we suspect to be rather under than over the mark. Here, then, we have an aggregate in round numbers of four hundred and seventy thousand persons who have fallen victims to one type of zymotic disease in the last twenty-one and a half years. But what of those whom the disease attacked but did not kill outright? On the most moderate assumption it is probable that at least five millions of persons in England have, during the last twenty-one and a half years, suffered more or less severely from attacks of scarlet fever and diptheria. That a considerable number of these persons ultimately perished by other maladies, either induced by the original attack or supervening on a broken constitution, must undoubtedly be taken for granted."

Prof. T. H. Huxley, in his great lecture on the "Origin of Life," just delivered before the British Association, says, that in looking back no further than ten years, it is possible to select three years in which the deaths from scarlet fever alone have reached thirty thousand a year. This, too, leaves out of sight all who may have been maimed by the disease or the treatment, which would, perhaps, amount to as many more. The specific cause of scarlet fever is not known, though it may yet be discovered. Prof. Huxley intimates this when he remarks, "This long-suffered massacre of our innocents will come to an end." We need not, however, wait for the discovery of the specific cause of the disease before we do much to prevent the ravages

of the disease. The apathy of the people is so great on these subjects, that they allow they do not even use such preventive means as lie within their reach. We refer our readers to the able articles on this subject published in the volume for 1869.

Narrowness and Blindness.—Human nature is often full of generous, noble impulses. Men and women will brave peril and danger to save a life, which may perhaps not be worth half so much as their own. It is only a few years since expedition after expedition was sent out in search of Sir John Franklin. Large sums of money were expended, and many lives were jeopardized in a fruitless search, after a bold but unsuccessful navigator. None but the most selfish could fail to applaud every effort to discover the fate of one whose name was dear to all the civilized world. Noble impulses are common to all people. The wildest savage, whose greatest delight may be to tomahawk and scalp his white foe, often exhibits deeds of noble daring, of generous impulses, second to those of no living man. Does a woman or child fall overboard, how many brave, stalwart men are ever ready to plunge into the water and risk their own lives to save the life of another, to whom they may owe nothing. It is only the other day that the papers chronicled the fact that a man risked his life to save a child playing on the railroad track, unconscious of an approaching train that would in another instant have crushed it to death. Such instances are quite as common among the hard, rough, uncouth people as among the refined and gentle. But if there is much kindness and generosity among men everywhere, so is there also much narrowness and blindness. While all England was alive as to the whereabouts of Sir John Franklin and his men, and every inhabitant would have contributed his quota toward the expense of each search, had it been necessary, how many were broad and comprehensive enough to make any effort half so magnificent to improve the sanitary condition of the people, to stamp out scarlet fever, or to banish poverty and intemperance. Suppose that the man who saved the child from destruction on the railroad track at the risk of his own life had been told that a hundred children were in danger of dying with scarlet fever for want of some precaution, which he could give without risking his life, though it might involve trouble and expense. Would he become excited over the matter and rouse himself and his neighbors to the rescue? Ten chances to one he would let the hundred perish without lifting a finger. And why? Not because he is not a noble, kind-hearted, generous man, but because he is a blind and narrow one. He can not be made to see the danger, and he can not understand the use of precaution. It is so in every department of life. Evils exist for which there are remedies, but only a few see them, or comprehend the cause and the case. What the world needs now is not so much brave, kind, generous men and women, of whom the world is full, but broad and comprehensive ones, who are not groping in the dark, but who live in the broad light of science, religion, and culture, and who are active enough to put into use their thoughts for human progress.

Loss of Power.—The statement that so much power has been wasted for 48,000 years at Niagara Falls suggested to me the calculation how much is wasting every day at Hell-gate, in the East River, opposite New York. It turns out that we have more water-power wasted here than at Niagara Falls. That power is 16,000 times as great as that from all the coal burned upon the island to-day. There is more water-power in the rivers of every State in the Union than is used by the whole United States. To make use of the tidal power would give us the equivalent of a coal mine in the middle of Hell-gate. The power of the tide running to waste upon the coast of the United States is 4,000 billion times as great as the whole mechanical world is using to-day. We can not much longer afford to incur the monstrous expense of coal. There is no necessity for it. Coal will cease to be of value to us when we learn to

make use of the mightier power in the water and in the air, the only two materials God has given us enough of without our taxing our ingenuity and toiling in constant labor to make up the deficit.—*Edward Lester.*

We think it would be an interesting calculation to cipher out just how much power runs to waste in the population of any large city in a year In New York we could show a large force going to waste every day. We will pay somebody handsomely to make the estimate. It is an important question to hygienists and physiologists.

Young Doctors.—This season about fifteen hundred young doctors will be graduated from the medical colleges of this country. If we were to judge of the qualifications of these from those we see at Bellevue Hospital at the clinics that are daily held there, we should almost despair of the profession. Sorting out a dozen of the best of them, and the remainder are a dirty, ill-mannered, rowdyish set of fellows, or else a set of stupid knownothings, who will never do any good, but may do much harm before they die. The treatment they have given to women students who attend the clinics and lectures has been such as to indicate their own breeding better than any thing we could say. Galton, in his great work on Hereditary Genius, noticed in the February Herald of Health, has estimated pretty accurately that in Great Britain there are only about two hundred and fifty persons to each million of adult males who ever become distinguished. If we were to apply this rule to the young men who attend the medical colleges, the hope of finding genius there would be small indeed. There ought to be more care exercised in the selection of medical students. Not every one who applies should be allowed to enter, but only such as by nature seem fitted for the work. The process applied at West Point to candidates for the military service, modified to suit the exigencies of the case, would weed out so much of the chaff of medical colleges, and give so much greater dignity to the profession, that it ought to be adopted. Who will clean this great Augean stable of its worthless trash?

The Death of Alice Cary.—We are greatly pained to chronicle the death of an esteemed friend and frequent contributor to The Herald of Health—Alice Cary. She had been in feeble health for some time, and though from the nature of her disease she suffered most excruciating pains, yet she bore it sweetly and patiently to the last. Her funeral was attended by a large concourse of literary friends who mourn her loss as the loss of the friend and sweet singer of pure and beautiful song. She worked till within a few days of her death. It is only a short time since she sent us a poem for The Herald of Health, which will be published in the next number. She led a beautiful life, and her name will be treasured in sacred memory by thousands of friends.

Rain Water—Query?—Is rain water as pure as spring or well water, and as fit to cook with? W.

Answer.—Rain water is always soft, but rarely pure and wholesome as it falls from the sky. In its fall through the air it absorbs much atmospheric air, carbonic acid, and salts of ammonia. Over large towns it brings down soot, sulphurous and sulphuric acids. Near the sea, it contains a little salt. Nearly all of these substances are removed by filtering.

How an Old Man Feels.—Anthony Peeour, who recently died at the age of 109 in Troy, New York, said a few days before his death that he felt as young as at fifty years of age. Up to the age of 107 he had never had a doctor. He attributes his health and extreme age to plenty of exercise and correct habits.

Characteristics of Wholesome Water.—1. It should be transparent.

2. Nothing should settle to the bottom after it stands a few hours.

3. It should be devoid of smell or taste.

4. It should be well aerated and of such temperature as to render it neither flat, nor so cold but it can be drank in moderate quantity without injury.

WHISKY AND THE HERALD OF HEALTH.—A glass of whisky is manufactured from a dozen grains of corn, the value of which is too small to be estimated. A glass of this mixture sells for a dime, and if of a good brand is considered well worth the money. It is drunk in a minute or two. It fires the brain, sharpens the appetite, deranges and weakens the physical system. On the same sideboard on which the deleterious beverage is served lies a copy of THE HERALD OF HEALTH. It is covered with half a million types; it brings good news regarding health and happiness, from all quarters of the globe. THE HERALD costs—little more than a glass of grog, the juice of a few grains of corn, but it is no less true, there is a large number of people who think corn-juice cheap and THE HERALD dear.

HOW WATER GETS FOUL.—1. The water which falls from the clouds becomes foul by falling through the smoky, dirty air, and by the matter from the roofs of houses on which it falls.

2. Spring and river water become foul by freshets.

3. Well water is contaminated by surface impurities, sewerage, cess-pools, and by the soil through which the source of supply is accumulated.

4. River water is spoiled for domestic uses by the refuse of slaughter-houses, gas-works, and the various manufactures that pour their refuse into it.

5. Cistern water gets filthy by the settling of such impurities as are washed from the roof; by leaks in the pipe, and by not being well covered.

It is now well established that dysentery, typhoid fever, cholera, etc., and other fatal diseases, are caused by animal and vegetable substances dissolved in the water, therefore all supplies of water for drinking and culinary or bathing purposes should be carefully inspected. All wells should be well covered. No sewer should be near a well, and the wash of all accumulations of filth should be carefully prevented from being carried into any water-supply for the house. It is well to remember that we may get accustomed to drinking impure water and not know it, unless other senses than taste are consulted. A proper attention to this subject, and a determination to use only wholesome water, would not only prevent many diseases but often save the lives of some beloved member of the family.

DRUGGED LIQUOR.—A great deal is said about drugged liquor. If a man drinks intoxicating drinks and gets drunk, he is very apt to apologize for it by saying the liquor was drugged. But this is only a trick of the trade to avoid censure. Drugged liquor is probably little or no worse than that which is not drugged. They both belong to a class that have bad effects on the body and have no business in it. Drunkards who screen themselves from censure behind drugged liquor, are either very cowardly or very ignorant.

CHARACTER OF WATER WE MUST NOT DRINK.—1. Turbid water, or that which has taste and smell.

2. Water that leaves a sediment in the bottom of the dish.

3. Water that contains animal or vegetable water in solution.

4. Water that is very hard, brackish water, or that which has absorbed from the air poisonous gases.

AIR AND TEMPERATURE IN MINES.—The deepest mine in the world is a coal mine in Lancashire, England. It is nearly half a mile deep. The temperature in the solid stratum is 93½ degrees, and where the air circulates 79 degrees. It is almost impossible to work in this mine, so great is the heat.

How to Treat the Sick.

HEALING ULCERS BY TRANSPLANTATION.—There are certain ulcers and wounds of integument which, solely on account of their extent, have hitherto been considered incurable. To illustrate by an example: If the whole of the skin were stripped from the arm, no effort of nature or skill of surgery, however long continued, could ever succeed in restoring the tegumentary covering. At least such has been the statement until to-day, and for the following reasons. First, because new skin never forms except from the margins of the old; and second, new skin can never be projected from the old beyond a few inches, perhaps two or three at the most. But many examples are presented in surgery, in which the integument is destroyed by burns or by machinery to such an extent that repair, limited by these invariable laws, utterly fails to complete the restoration; and great deformity from contraction, a perpetual ulcer, or amputation, have been the only alternatives.

By a successful operation upon a patient at the Hospital of the Sisters of Charity in Buffalo, in 1854, I demonstrated that a comparatively small piece of skin, perhaps three inches square, taken from one leg and transplanted to an open ulcer upon the opposite leg, which was eight inches square, would, after becoming attached, grow, and increase in size by the projection of a new skin from its margins, until the whole ulcer was closed in. This operation has been repeated many times by myself and others since the date of my first experiment, and with similar results.

But please listen now to what Mr. Reverdin has done. He has taken a piece of skin not larger than a lentil-seed from the arm of a patient, and inserting it in the midst of the raw, granulating flesh of an ulcer, it has become the center from which new skin has been formed, and has extended on all sides, and by making several of these minute insertions, the whole sore has speedily become cicatrized.

I have repeated these operations at the Charity Hospital already more than fifty times. My first patient refused to submit to the operation, fearing that the excision of the piece of skin would be painful; but having cut a small piece from my own arm, he permitted me to insert it into his open wound. This trivial operation, made in the presence of a large number of others suffering from chronic ulcers, gave them an assurance that it was almost painless and bloodless, and no further difficulty was experienced in prosecuting the experiments. We had but six successes from this large number of transplantations, but the principal causes of failure have been ascertained, and will be avoided hereafter. What is most remarkable in this thing, is that the minute piece thus implanted seems to fall off in a few days, but at the point where it rested, after the lapse of a week or two more, a small white spot is seen coming into view, like a cloud in a clear sky. The original and parent structure disappears, but a cell or seed is found to have been deposited, capable of indefinite growth and development. The precise law which governs this curious process we do not pretend to have ascertained; but having discovered the fact and availed ourselves of it in the cure of our unfortunate patients, we can afford to wait for an explanation.—*Dr. Hamilton.*

IN-GROWING TOE NAILS.—This most painful of the diseases of the nails is caused by the improper manner of cutting the nail (generally of the great toe), and then wearing a narrow, badly-made shoe. The nail beginning to grow too long, and rather wide at the corners, is often trimmed around the corner, which gives temporary relief. But it then begins to grow wider in the side where it was cut off, and as the shoe presses the flesh against the corner,

the nail cuts more into the raw flesh, which becomes excessively tender and irritable. If this state continues long, the toe becomes more and more painful and ulcerated, and fungus (proud flesh), shoots up from the sorest points. Walking increases the suffering, till positive rest becomes indispensable.

Treatment.—We omit all modes of cutting out the nail by the root, and all other cutting or torturing operations. Begin the effort at cure by simple application to the tender part of a small quantity of perchloride of iron. It is found in drug stores in a fluid form, though sometimes in powder. There is immediately a moderate sensation of pain, constriction, or burning. In a few minutes the tender surface is felt to be dried up, tanned, or mummified, and it ceases to be painful. The patient, who before could not put his foot to the floor, now finds that he can walk upon it without pain. By permitting the hardened, wood-like flesh to remain for two or three weeks, it can easily be removed by soaking the foot in warm water. A new and healthy structure is found, firm and solid, below. If thereafter the nails be no more cut around the corners or sides, but always curved in across the front end, they will in future grow only straight forward; and by wearing a shoe of reasonably good size and shape, all further trouble will be avoided.—*Bostwick's Medical and Surgical Journal.*

Cure for Rheumatism.—One of our exchanges, The Beekeepers' Journal, prints the following remedy for rheumatism. "The man we speak of, suffered much from rheumatism in his right arm, so much so that he was not able to raise his arm to his head. Nevertheless he was compelled to perform some necessary operation on one of his stock of bees, and while doing so, was stung in the thumb of the rheumatic hand. Immediately the hand and arm commenced to swell, but as the swelling increased, the rheumatic pain diminished, and in half an hour, his rheumatism was gone.

A few months after this, being much exposed to wet weather, the malady returned. He procured some bees and compelled them to sting him in the upper part of his hand, and in less than fifteen minutes he was free from the malady."

It is not at all unlikely that such a result would sometimes follow a bee-sting. Whatever starts the circulation through the affected parts will produce the same result.

Vaccination and Contagion Due to Living Particles.—You are familiar with what happens in vaccination. A minute cut is made in the skin, and an infinitessimal quantity of vaccine matter is inserted into the wound. Within a certain time a vesicle appears in the place of the wound, and the fluid which distends this vesicle is vaccine matter, in quantity a hundred or a thousand fold that which was originally inserted. Now what has taken place in the course of this operation? Has the vaccine matter by its irritative property produced a mere blister, the fluid of which has the same irritative property? Or does the vaccine matter contain living particles, which have grown and multiplied where they have been planted? The observations of M. Chauveau, extended and confirmed by Dr. Sanderson himself, appear to leave no doubt upon this head. Experiments, similar in principle to those of Helmholtz on fermentation and putrefaction, have proved that the active element in the vaccine lymph is non-diffusible, and consists of minute particles not exceeding 1-20,000th of an inch in diameter, which are made visible in the lymph by the microscope. Similar experiments have proved that two of the most destructive of epizootic diseases, sheep-pox and glanders, are also dependent for their existence and propagation upon extremely small living solid particles, to which the title of "microzymes" is applied. An animal suffering under either of these terrible diseases is a source of infection and contagion to others, for precisely the same reason as a tub of fermenting beer is capable of propagating its fermentation by "infection" or "contagion" to fresh wort. In both cases it is the

solid living particles which are efficient; the liquid in which they float, and at the expense of which they live, being altogether passive.—*Huxley.*

To Prevent Snoring.—Snoring comes mainly by breathing in sleep with the mouth open. Therefore the cure is, to sleep with the mouth shut. But, says one, how is the mouth to be kept shut, while we are sound asleep and do not know what we are about? We confess it is not easy to do this. Perseverance can accomplish a great deal, if the patient will try. Generally it will aid the sufferer to avoid sleeping on the back, a position in which the lower jaw naturally drops more or less, but to lie on the side or face. Sleeping in this position has many things to commend it, in our opinion. A Mr. Pinkard of New Orleans has patented a device to hold the mouth shut during sleep, but we do not believe it could be of more than temporary value.

Remedies for Poison by Ivy.—Olive (sweet) oil is said to be a sure cure for the effects of the Poison Ivy, or Poison Oak (Rhus toxicodendron). In severe cases it may be taken internally, as well as applied externally. Dose, two table-spoonfuls three times a day, keeping the affected parts well oiled all of the time. Anointing the exposed parts with the oil will prevent poisoning.

Take a handful of quick-lime, dissolve in water, let it stand a half-hour, then paint the poisoned parts with it. Three or four applications never fail to cure the most aggravated cases.—*Journal of Chemistry.*

Cure of Stammering.—The effectual cure mainly depends upon the determination of the sufferer to carry out the following rule: Keep the teeth close together, and before attempting to speak, inspire deeply; then give time for quiet utterance, and after very slight practice the hesitation will be relieved. No spasmodic action of the lower jaw must be permitted to separate the teeth when speaking. This plan regularly carried out for six months, cured me when twenty years old. I was painfully bad, both to myself and others. Without determination to follow out the plan, it is of no use attempting it.—*Exchange.*

Prospects of Female Doctors.—While the conservative members of the profession are insisting that women are physical and mentally unfit for the study and practice of medicine, and must not be tolerated or acknowledged as regular practitioners, the incentives and facilities for the medical education of females are increasing notably in all directions, both in Europe and America. A wealthy citizen of Boston has lately bequeathed nearly a million and a half of dollars for the endowment of an institution for females—medicine being first named in the list of branches to be taught. If our good brothers in Philadelphia and elsewhere, members of the Pennsylvania State Society, and of the National Association and other organized bodies, who condemn as heretics all doctors in petticoats and their abettors, do not throw off their stiff stocks and suffer their heads to turn on the axis, they will run the risk of being crowded out of the profession by the well-trained graduates of crinoline, who are mustering in the latter days like the soldiers of Germany. The opponents of female doctors are really their best friends. They do not understand the nature of women or they would not attempt to thwart her aspirings by prescription. "When she will she will, you may depend on't."—*Pacific Med. and Surg. Journal.*

Inebriation Hereditary.—Dr. Turner, in his "Second Annual Report of the State Inbriate Asylum," states that out of fourteen hundred and six cases of delirium tremens which have come under his observation, nine hundred and eighty had an inebriate parent or grandparent, or both. He believes if the history o each patient's ancestors were known, it would be found that eight out of ten of them were free users of alcoholic drinks.—*Med. Record.*

Food for Mirth and Thought.

Personal Independence.—Thus all things attest the nobleness of personal independence, and all things attest the need of it. Why, then, should we not devote ourselves to its culture? Is it a thing hopeless of attainment? Are we told that to judge what is right is no such easy matter? That very few are capable of doing it? That the attempt to do it would bring the uttermost confusion upon us? That the process would produce an abundant crop of conceit and impudence, a beautiful harvest of vagaries and whims, a hideous fruitage of intellectual abominations? Perhaps it would. To judge what is right is no easy matter; and the individual verdicts might, very possibly, clash together in a manner most deplorable. But the way to learn swimming is not to stand shivering on the bank of the pool. No dread of the plunge will answer the purpose of the dip and struggle. The proper way to judge wisely is to judge as wisely as you can. Would you have light, use the light you have. Consciences, like limbs, are made strong by using them. Self-reliance comes from relying on self, in the hope that self will presently become worth relying on.—*O. B. Frothingham.*

A Kind Heart.—It is kindly sympathy with human life that enables one to secure happiness. Pride is like an unsilvered glass through which all sights pass, leaving no impression. But sympathy, like a mirror, catches every thing that lives. The whole world makes pictures for a mirror-heart. The best of all is, that a kind heart and a keen eye are never within the sheriff's reach. He may sequester your goods. But he can not shut up the world or confiscate human life. As long as these are left, one may defy poverty, neglect of friends, and even, to a degree, misfortune and sickness, and still find hours brimful every day of innocent and nourishing enjoyment!

Choked to Death.—In San Francisco, recently, the sudden and unaccountable death of a boy ten years of age, led to the arrest of his father on suspicion; when, by chance, the physician who conducted the autopsy, after its completion, bethought himself to examine and remove the larynx, this organ was found to contain a large mass of meat, which produced death by suffocation. It appeared that the boy in the night had been awakened by an attack of vomiting, during which the meat became lodged in its position. *The Pacific Medical Journal* gives an account of another case also, in which a patient who was put under the influence of chloroform, after having eaten a hearty meal, during an attack of vomiting lodged a portion of food in his larynx and was suffocated in spite of every effort.—*Buffalo Medical Journal.*

A Successful Woman Farmer.—A woman has carried off the $500 prize offered for the best managed farm in Oxfordshire, England. English women take more interest in agriculture than their American sisters do. It does not however follow that the woman above referred to did any of the work on her farm; no doubt she employed a first class superintendent, as other English farmers do, and may not have had much to do in bringing about the result which won for her the prize.

Rev. C. G. Ames, of California, has a wife who is a help-meet indeed, taking her husband's place in his pulpit in case of his sickness or absence. On a recent Sabbath she "got up in the morning, prepared breakfast, washed and dressed her baby, dressed her little daughter for Sabbath-school, put baby to sleep, and sat down and reviewed her sermon before time to take the cars for church; then, consigning baby to the loving care of his grandmother, she went to church and preached to the entire satisfaction of a large and critical audience."

What Some Men and Women Do.—Some men move through life as a band of music moves down the street, flinging out pleasure on every side through the air to every one, far and near, that can listen. Some men fill the air with their presence and sweetness as orchards, in October days, fill the air with the perfume of ripe fruit. Some women, cling to their own houses like the honeysuckle over the door, yet like it fill all the region with the subtle fragrance of their goodness. How great a bounty and a blessing is it so to hold the royal gifts of the soul that they shall be music to some, and fragrance to others, and life to all! It would be no unworthy thing to live for, to make the power which we have within us the breath of other men's joy; to fill the atmosphere which they must stand in, with a brightness which they can not create for themselves.—*Beecher.*

What Not to Lose.—I do say to every young man whom I am now addressing, whatever your pursuits may be, however active, however absorbing, don't, unless you are willing to forfeit one of the most lasting of human enjoyments—don't, if you can possibly help it, allow yourself to lose your taste for reading. I say nothing of books as a mere substitute for and preventive of indulgence in low pleasure; you, I hope, are above wanting that sort of recommendation. But it is a bad thing to have the brain always filled with one's own narrow personal concerns, or what is one degree worse, with the small personal concerns of one's neighbors. I have not a word to utter against strenuous devotion to business while you are at it; on the contrary, that is the secret of success, and what is worth more than success—of self-approval.—*Lord Derby.*

What is a Kindergarten?—For those who do not know what the word Kindergarten implies, I will say Kindergarten means a garden for children, where the children are considered as the various plants, and the teacher as the gardener; who has to be intimately acquainted with their nature and needs, in order to supply all the necessary conditions of soil, moisture, sunny-side or shade, that is necessary to promote their healthy growth and fruitage. At the same time Froebel wanted a garden connected with every school, so that the children should be in constant contact with nature, and be able to watch her processes, and learn to take care of plants, and also animals; which duty lovingly performed in early childhood, prepares the child, later in life, to take care of those dependent on him.—*Mad. Kriege.*

Kindness in Drovers.—Miss Burdett Coutts has been giving prizes to English drovers who have been merciful to their cattle, as a reward for their kindness to dumb animals on the way to the shambles.

It may be that drovers and butchers can be kind and tender, indeed they often are, but the tendency of their profession is toward cruelty and hardness. If as claimed by almost all naturalists and physiologists man must eat meat to live, then let us not complain that there are men cruel and hard enough to furnish it for us. It requires a nature somewhat cruel and harsh to follow such pursuits without pain to themselves for the pain they inflict on dumb animals.

For the benefit of young girls who are impatient to put on trained skirts, it may be stated that the Princess Beatrice, daughter of Queen Victoria, now nearly sixteen years old, has never yet worn any thing but short dresses even upon the grand occasion of a drawing-room reception, when court-trains are universal.

A Dentist, trying in vain to extract a decayed tooth from a lady's mouth, gave up the task with this apology: "The fact is, madam, it is impossible for any thing bad to come from your mouth."

A Tempting Argument.—It is a plausible and tempting argument, to claim suffrage for woman on the ground that she is an angel; but I think it will prove wiser in the end, to claim it for her as being human.—*Higginson.*

Why is a hobbling parson like a secular person? He is a *lame man* (layman).

ANSWERS TO CORRESPONDENTS.

BY A. L. WOOD, M. D.

Torpidity of Liver and Constipation.—"What is your opinion of the use of white mustard seed as a remedy for obstinate constipation and torpid liver? I am subject to both, and have been induced to use the seed, and find that it affords considerable relief. I am fearful, however, that if its use was continued for any length of time, or until the bowels had become habituated to it, that they would not act without the customary stimulus if its use was suspended."

You are right. The effect is the same, except in degree, as other cathartic medicines. They all give temporary relief, but it is at the expense of a future aggravation of the same difficulty and a diminution of vital power. Free enemas of tepid water constitute the best means for temporary relief. To effect a cure, diet, exercise, bathing, etc., must be closely and perseveringly attended to. The food should be confined to fruit, vegetables, and farinaceous preparations, as graham bread, cracked wheat, oat, rye, or wheat meal mush or cakes, etc. If meats are used, only those which are lean and fresh. No fat or salted meats, gravies, soups, pies, puddings, cakes, fine-flour bread, greasy food of any kind, salt, spices, and condiments, milk, tea or coffee should be used. The patient should take as much exercise daily as he is able, and if it can be taken out of doors, so much the better. A loose dress about the waist, and abdominal breathing, in which there is an expansion and contraction of the abdomen at every breath, are very important. Kneading of the abdomen with the hands is useful, also percussion of liver and bowels. A regular hour for evacuations should be established as soon as possible, and every day when the hour arrives the effort should be made, whether successful or not. The patient should bathe at least once or twice per week, so as to keep the skin clean and in an active condition. Obstinate cases should go to some institution where they can get the full benefit of the Movement-cure treatment. It is as near a specific in such cases as any thing can be, and when the cure is once effected the patient can always stay cured with a reasonable attention to the laws of health.

Effect of Alcohol upon Longevity.—"I know a man upwards of ninety years of age who has used alcoholic liquors freely ever since he was a young man. How do you account for the fact that he is still living, and in good health?"

There is once in a while a man who has such an "iron constitution" that he can indulge in excesses of one kind or another and still live to a good old age, but such cases are rare, and serve to show the endurance of which some people are capable. In such instances, however, it will generally be found that their other habits have been good, and conducive to health. That the use of spirituous liquors shortens life is a fact so generally admitted by all who have investigated the matter, that it seems almost useless to cite proof of the fact, yet the following extract from a pamphlet by Dr. Joseph Parrish, of Media, Penn., can not fail to prove interesting, as the facts therein stated are the result of careful investigations by the life insurance companies of this country and of Europe, to ascertain the influence of intemperance upon their risks:

"When, in a given number of risks, ten temperate persons die between the ages of fifteen and twenty, inclusive, eighteen intemperate persons die. When, in a given number of risks, ten temperate persons die between the ages of twenty-one and thirty, inclusive, fifty-one intemperate persons die, or the risk on an inebriate is more than five hundred per cent. greater than on a temperate person. When, in a given number of risks, ten temperate persons die between the ages of thirty-one and forty, inclusive, about forty intemperate persons die, or the risk is increased some four hundred per cent. Hence, insurance companies avoid risks on inebriates as they would on consumptives, or those suffering from Bright's disease, etc. These com-

panies have investigated this matter, not as philanthropists or reformers, but simply from an economic point of view.

The difference in the chances of duration of life between persons of sound constitution and those whose vigor is impaired by alcohol is as follows: A temperate person's chance of living is at 20, 44.2 years; at 30, 36.5 years; at 40, 28.8 years. An intemperate person's chance of living is at 20, 15.6 years; at 30, 13.8; at 40, 11.6."

About Fretting.—Fretting is one of the silliest, most unnecessary, unchristian, unreasonable, unprofitable, undignified, unpleasant, and useless things in the world. It never does any good, but always does harm to the one who frets, if to no one else. It is doing unto others as you would NOT have others do unto you. Fretting is a habit, and may either be inherited or acquired. When it has been inherited it is much more difficult to overcome than when it has been acquired, but in either case the most strenuous efforts should be made to conquer it. Its effects upon the subject of it are to cramp and belittle the mind, disease the body, and augment every sorrow and diminish every joy of life. It is a powerful producing cause of dyspepsia and nervousness, with their numberless variations and complications, and is sure to make worse any disease from which the person may be suffering. Patients who are continually fretting and worrying about some real or imaginary trouble, are very difficult to treat with any degree of satisfaction or success. Of two invalids suffering from the same disease, and whose general conditions, strength of constitution, course of treatment, etc., are similar, the one who is cheerful, hopeful, and always looking on the bright side of things will recover in less than half the time required by the confirmed fretter, and if the disease is a dangerous one the chances are ten to one in favor of the former. Fretting is a habit, and can be broken up as other habits can, but the subject of it must do the greater part of the work. He or she must first be convinced of the folly, uselessness, and sin of the thing, and fully determine to conquer the detestable habit, and then whenever any thing irritating occurs, KEEP THE MOUTH SHUT, and think of the folly and sin of giving way to the fretting proclivities until the irritated feeling has ceased. The persons coming most nearly in contact with the victims of this habit can do a great deal to aid them in overcoming it by kind and encouraging words, and by carefully refraining from saying or doing any thing likely to induce the feeling of fretfulness.

Chapped Hands and Lips—"I am greatly troubled during cold weather with chapped hands and lips. How shall I find relief?"

Persons with a languid circulation, relaxed condition of tissues, and impure blood, are most liable to be afflicted. This being the case, to effect a cure it is evident that these predisposing conditions must first be remedied. Consequently all the resources of Hygiene should be employed to purify the blood, equalize and strengthen the circulation, and invigorate the muscular and other tissues of the system. One of the best local applications is glycerine, which may be applied in small quantities several times a day, and should be THOROUGHLY RUBBED IN. It serves to keep the affected parts soft and pliable, and to protect them from the air. Gloves lined with wool are good to protect the hands from the cold.

Ripe Fruit and Cold Water.—"Can a nursing mother eat ripe fruit of all kinds, and drink cold water?"

She can and should. Ripe fruit is one of the best articles of food, and cold water the best and only drink needed. The fruit should not be eaten between meals, but as a part of the regular meal. It should always be thoroughly masticated. Cold water should not be drank at meals, or soon after eating, as it retards digestion. The prevalent idea that nursing mothers must be fed upon warm slops is a fallacious one, and the practice is injurious to both mother and child, and should never be adopted.

Copper Cooking Utensils.—Copper and brass vessels should not be used for cooking purposes, as poisonous chemical substances are liable to be formed by the action of oils and acids upon the substance of the vessels. The use of such vessels for cooking fruit is especially dangerous, as the acids of fruit act readily upon the metal, forming very poisonous substances.

NOTICES OF NEW PUBLICATIONS.

NATURE'S ARISTOCRACY, Etc. By Miss Jennie Collins. Boston: Lee & Shepard.

A pretentious title to a book of platitudes. It is evidently written to subserve the purposes of the working people, and has its point of value; but, if the picture here given of the manners of the ladies of Boston is a true one, they are the most exacting, petty, ill-bred class of women in the country; we hope for the honor of the sex, that the views proceed from a prejudiced and narrow observation, and have no foundation in facts.

MODERN WOMEN, and What is Said of Them. A Reprint of a series of articles in The Saturday Review. Second Series. New York: J. S. Redfield.

An English reprint consisting of essays upon various characteristics supposed to adhere to the modern woman. They are evidently the product of the masculine brain—trenchant, observant, and with a hit upon the nail-head good to witness. More keen than just, more witty than humorous, they provoke thought, and are well worth perusal.

THE TEMPERANCE ALPHABET. With Original Designs. By Edward Carswell. New York: National Temperance Society.

Mr. Carswell in preparing this little work has put all the children under obligations to him. Each letter of the alphabet is printed in red, two on a page, with appropriate designs accompanying, and a line underneath to tell the story. We know of several little boys and girls who have enjoyed Mr. Carswell's books and we hope learned a useful lesson as well.

JOHN SWIG; or, The Effect of Jones's Argument. By Edward Carswell. New York: National Temperance Society.

This little illustrated book which is written in verse and can be read in a quarter of an hour is one of the best lately published by the Temperance Society. We should like to see a copy of it put into the hands of all who are licensed to sell wine and spirituous liquors. It would do them good.

DOUBLE PLAY; or, How Joe Hardy chose his Friends. By William Everet. Boston: Lee & Shepard.

This a well written story for boys. The character of Frank Eustis is one admirable for boyish study. The incidents are natural, and the moral and religious tone high, manly, and pious. We would cheerfully put it into a boy's hands.

LETTERS EVERYWHERE; or, Stories and Rhymes for Children. By Theophele Schuler. Illustrated. Boston: Lee & Shepard.

These stories seem to be a collection from a foreign source, and are pleasing and instructive. We have tried them upon little folks, and found they "took" well.

WHAT IS SAID OF THE HERALD OF HEALTH.—An exchange says, "It is by far the best semi-scientific magazine published, for the use of intelligent and cultivated people. In it are presented all the best and richest results of science, in such a form that any well educated person can fully understand and enjoy them; and its literary character is of the highest."

THE PUBLISHERS' DEPARTMENT.

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DR. A. L. WOOD, and
THE EDITOR.

Notice to Our Correspondents.—

The following hints to correspondents should be observed in writing to us:

1. ALWAYS attach name, Post Office, County, and State to your letter.
2. SEND MONEY by Check on New York, or by Postoffice Money Order. If this is impossible, inclose Bills and register Letter.
3. CANADA AND NEW YORK CITY SUBSCRIBERS should send 12 *cents extra*, with which to prepay postage on subscriptions to THE HERALD OF HEALTH.
4. REMEMBER, if you are entitled to a Premium, to order it when you send the Club, and inform us how it is to be sent.
5. REMEMBER THAT WE NOW GIVE the *Empire Sewing Machine* as a premium. It is guaranteed to give good satisfaction.
6. REMEMBER TO SEND in Clubs early.
7. REMEMBER TO LOOK at our Premium List and Book List, and see exactly what we give and have for sale.
8. REMEMBER that for the names and addresses of 25 persons, either invalids or friends of Temperance and Health Reform, we give Prof. Wilson's book on the Turkish Bath. It contains 72 pages.
9. STAMPS should be sent to prepay postage on letters that require an answer.
10. Those who want a good *Spirometer*, *Parlor Gymnasium*, or *Filter* for making their water clean, will find the prices in another column.
11. INVALIDS from all parts of the country are invited to write to us for our circular, and full particulars as to Treatment or Board in the Hygienic Institution, See advertisement elsewhere.
12. See List of Books elsewhere.

Caution.—Our friends in writing to us will please be very particular and give Postoffice, County and State with every letter, and not depend on us to remember where they live, though they may have told us a hundred times. Those who think we can turn to our books and find their names and address without trouble, are quite mistaken.

The Address Label.—By this method our subscribers can keep their own accounts as to when their terms of subscription close; for instance, if the printed slip has "De71," or "Je72" added to the name, it signifies that the subscriber's term of subscription expires with the December number of 1871, or the June number of 1872, and so on *et seq.*

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Wanted.—Will our readers please send us brief items of news and experience referring to Health and Physical Culture topics. Make them pointed and practical, and we will publish them for the benefit of others. Do not mix them up with business or personal matters but on separate sheets of paper and in readiness for the Printer.

Clubs of Twenty-five.—Any person who will send us at one time twenty-five new subscribers to this monthly, shall have them for Twenty-five Dollars. Remember they must be new subscribers, and all be sent at one time.

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All sent at one time, we will give to each THE HERALD OF HEALTH for one year, and a copy of either of the following new works, viz.: "A Winter in Florida;" value, $1 50; "Talks to my Patients," value, $1 50; or, The American Agriculturist for one year, value $1 50; or, if 35 cents be added to each name, The New York Weekly Tribune for one year, valued at $2. Bear in mind that the 25 names and the $50 must all come at one time.

☞ SEE PAGE 143 FOR CLUBBING.

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☞ ADVERTISEMENTS of an appropriate character will be inserted at the following rates: Short advertisements, 25 cents per line; thirteen lines, for three or more insertions without change, 20 per cent. discount; one-half column, $12; one column, $22; one page, $40. All advertisements must be received at this office by the 5th of the month preceding that on which they are to appear.

INSTITUTE DEPARTMENT.

☞ In this Department we purpose giving, from month to month, a description of the various agencies we employ in the treatment of disease, the reasons why we use them, their effects in different diseases, occasional reports of cases, and various items of interest in regard to the institution.

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The objects of this institution, which has been in successful operation for more than twenty years, are two-fold, viz. 1. The treatment and cure of the sick without poisoning them, by Hygienic agencies alone.
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Thousands of invalids have been successfully treated at this institution during the past twenty years, and its fame extends wherever the English language is spoken. Its appliances for the treatment of disease without the use of poisonous drugs are the most extensive and complete of any institute in America. They comprise the celebrated

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MACHINE VIBRATIONS, the varied and extensive resources of the WATER CURE, LIFTING CURE, MAGNETISM, Healthful Food, a Pleasant Home, etc., etc. Particular attention is given to the treatment of all forms of CHRONIC DISEASE, especially of Rheumatism, Gout, Dyspepsia, Constipation, Torpidity of the Liver, Weak Lungs and Incipient Consumption, Paralysis, Poor Circulation, General Debility, Curvature of the Spine, Scrofula, Diseases of the Skin, Uterine Weaknesses and Displacements, Spermatorrhea, etc. Any one wishing further information should ☞ *SEND FOR A CIRCULAR,* ☜ containing further particulars, terms, etc., which will be sent free by return mail.

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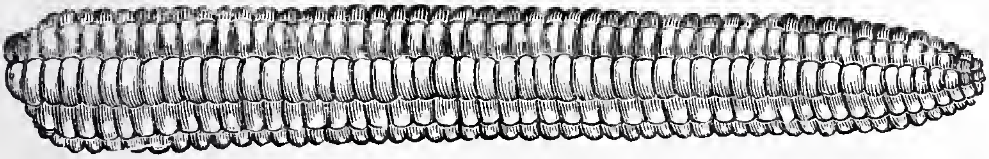
D. H. PRIME, *Printer, at the Hygienic Institute, N. Y.*

The Premium Sanford Corn.

[Continued from Second Page of Cover.]



This variety has been tested the past season in nearly every State and territory, and the claims made in favor of are sustained by the most convincing and disinterested testimony (neither bogus or bought) establishing the fact that is not a Humbug, and confirming all previous evidences of its superiority. Nothing is claimed for it but that which in be fully substantiated. It has the reputation in this (Suffolk Co.,) as being the best field corn, and as such has iken the highest premium for five successive years. In Michigan, Wisconsin, Minnesota, and other States, it has pened from two to four weeks earlier, producing from one-third to double the quantity of other corn.

FURTHER TESTIMONIALS.

Ypsilanti, Mich., *Jan.* 7, 1871.

S. B. Fanning: Thinking you might be interested, I ive you the result with the Sanford Corn I planted the 6th of May, while my neighbors were cultivating heirs. Planted on clover sod—no manure and only ordi-ary cultivation—I have harvested from the first acre ieasured, one hundred and fifty-five bushels; the second, ne hundred and forty-four bushels. I cut the stalks the 0th of September fully ripe. The best acre of my common orn planted in the same field with same culture, yielded ut one hundred and ten bushels. I have seventy-five ushels more shelled corn than if I had planted the White Dent, Eight-rowed Yellow, or Red Blaze. From three ushels of ears I get two bushels of shelled corn. Have lone this three or four times in shelling that amount. When weighed at the mill, I had one hundred and twenty ounds of nice corn from three bushels of ears. If any one an beat this I will make another trial next year, if I live. t is universally liked in this vicinity. The seed delivered ost me $8.70. If I had paid $25 for it, it would be the heapest seed I ever planted. Some of my neighbors hink I have "Corn on the Brain," and it is partly true, and I have it in the crib. JOHN HOWLAND.

Fortville, Ind.

S. B. Fanning—*Sir:* The corn I purchased from you was planted on the 23d of May, two grains in a hill. Plowed it twice before and once after harvest. Did not see it afterwards until it had eared, and was surprised to find from three to eight stalks in a hill, and most of them with two and some with three ears on a stalk. It yielded at the rate of 120 bushels per acre, which was just twice the yield of our common corn. I intend to plant largely of it the next season, and think all farmers will find it to their advantage to give it a trial. FRANK K. BOOLE.

Bloomsburg, N. Y.

S. B. Fanning—*Dear Sir:* I planted the Sanford Corn on the 5th of June. The dry weather kept it back, and it was more than a week before it sprouted. It commenced to set ears about the 19th of July, and it beat all corn I ever I saw for sets. Some stalks had five, some four, and none less than three. About this time the drought commenced and dried up many of them, but it yielded seventy-five bushels per acre, and nothing but the dry weather kept it from yielding double that amount. I consider the stalks very valuable for fodder.

A. B. CRANE.

Auburn, Ohio. Nov. 14, 1870.

S. B. Fanning: I take pleasure in reporting result of my experiments with the Sanford Corn. Late in May I planted two Quarts on old ground, ordinarily manured. There was a fine growth of stalks and a large yield of splendid looking corn. From the two quarts planted on a quarter of an acre of ground, I obtained thirty-five bushels —at the rate of one hundred and forty bushels per acre. The large, well-filled ears are admired by all who see them. A gentleman of this place raised thirty-eight bushels, from two quarts seed. I am satisfied that the Sanford Corn is not excelled by any variety, but believe it superior to all. GEO. WM. WILSON.

Mount Eaton, Ohio.

Dear Sir: I planted the Sanford Corn on the 16th of May; it was ripe two weeks earlier than my other corn. I planted my common corn in the same field. It took twelve rows to make forty-five bushels of ears. Of the Sanford Corn it took only eight rows to make the same number of bushels. It will yield with me one-third more than the common corn. E. D. PINKERTON.

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Send stamp for Circular, giving full description, History, and Testimony. Also, Price-list of new varieties of Corn, Potatoes, Oats, and other choice Farm Seeds. Money may be sent in Registered Letter, or Post-Office Money Orders (drawn on Riverhead P. O., N. Y.). Any amount less than $2 may be sent by mail at my risk.

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